THE CULTIVATOR.

THIRD — To Improve the Soil and the Mind. — SERIES.

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Gas Tar as an Antiseptic Paint.

The preservation of wood is a subject of great and increasing importance. In this country and in Europe, patent after patent has been taken out for various processes of accomplishing this object. Metallic Salts are generally employed, and afford, unquestionably, the means of increasing to a great degree the durability of timber. The high price seems to be the chief objection to their use, and especially to the use of corrosive sublimate.

To exclude the oxygen of the atmosphere is the first thing to be secured—decomposition cannot take place unless oxygen be present in some form or other. The albuminous matter of the sap, too, is a great cause of decay, and the more so, if in a moist state. It acts precisely as yeast in the fermentation of bread. If we boil yeast, its fermenting power is destroyed. By steaming wood we coagulate the albumen (white of egg) of the sap, and thus, to a certain extent, lessen its liability to fermentation or decay. The exclusion of the atmosphere and water, and the coagulation of the albuminous matters of the sap, or recently formed portions of the tree, are the two great points to be secured in the preservation of wood,—and, we may add, of almost every vegetable or animal substance.

The various metallic or mineral paints secure to a certain extent the former object, and a solution of a metallic sulphate the latter; and we would advocate the use of both articles to a much greater extent than is now practiced by most farmers. We hope to live to see the time when every wooden implement on the farm shall receive a good coat of paint every year. Such a practice *will pay*, now that good timber is getting scarcer and higher every year.

There is a substance, however, that to a certain extent, at least contains, in itself, both these qualities. *Gas tar* will coagulate albumen, *and* exclude the air and moisture. It is cheap and easily applied; why then is it not more generally and bountifully used? In England, hedges take the place of our not very picturesque Virginian fences, and the home-steading is of brick or stone, but the extent to which gas tar is used on the doors of buildings, gates, &c., affords conclusive evidence that, were board fences used, as with us, they would be preserved, if not ornamented with a frequent coat of this odoriferous paint. We do not recollect to have seen it used for this purpose, in this country, except on the magnificent farm of JAMES S. WADSWORTH, Esq., of Geneseo, N. Y., where it has been employed for many years in painting board fences, and proves to be all that its advocates claim.

It is said that the agents used by the Egyptians to preserve mummies were of an asphaltic nature, and though this perhaps cannot be clearly established, it is certain that asphaltic oils, such as exist in gar tar, possess powerful antiseptic properties.

In 1838 some sleepers were laid on the Manchester and Creive Railroad which had been saturated with gas tar. A short time since they were taken up, in order that they might be replaced by some of a heavier description, when it was found that the old sleepers were *perfectly sound*, and they are about to be used on parts of the line where there is less traffic. The unprepared sleepers did not last more than four or five years, and a similar case might be mentioned in this country.

An English scientific writer says: "A great many improvements in this country are stopped by the prejudice which people have against anything having the smell of gas." If this can be said of England, where gas tar is as extensively used as paint, &c., what shall be said of American farmers, who use little if any? He gives the following instance, which shows that a love of things "far fetched and dear bought" is not confined to this country, or the ladies. "For instance," says he, "pitch and other products of tar are highly important in ship building, yet, so prejudiced are the English ship-wrights against coal tar and pitch, that they will only use the tar and pitch from Archangel or Stockholm, though it costs ten times as much as the English. In the Mediterranean the native vessels which are not coppered suffer very severely from the worm, and the Maltese and Sicilians found that the Archangel and Stockholm pitch would not protect them, but with the coal pitch and tar no worms would touch the vessels, and there is, therefore, a great demand for the English pitch and tar in the Mediterranean, the boat builders of which would readily give more for it than for the vegetable pitch or tar; but there is a prejudice against it in England because it can be obtained cheap-

ly at our very doors. In fact, all pitch and tar from the mineral kingdom is much better and stronger than that from the vegetable, and much more of a preservative." Is prejudice or ignorance the cause of the general neglect of gas tar as a paint and as a preventive of decay? The experience of those who have used gas tar on posts in the ground is, so far as we know, without exception, in favor of gas tar. We have met with one gentleman who thought that, while gas tar retarded the decay of timber in the ground, it accelerated its decay above the ground. We cannot think that there is any foundation for this opinion; if there is, we should be pleased to hear from those who are competent from experience to speak on the subject. We have many such among our readers. Will they not favor us with their experience in the use of gas tar?

Keeping Roads in Good Repair.

That this is an object of much importance may be generally conceded, so long as men merely *talk* about the matter; but it seems to be otherwise when they are called upon to *work*, if the reluctance, indifference, shirking, and dislike to that duty upon the public highways, may be taken as indications of the real state of sentiment existing on the subject. The indifference which many display in regard to keeping roads in good repair, and their unwillingness to do their proportion of work upon the public highways, have often been matters of surprise, and sometimes of philosophical speculation upon some of the dark and profound mysteries connected with human nature. We have sometimes wondered if selfishness—total absorption in one's own interest, and total indifference to the interests of others—could ever be indulged to such a degree as to become wholly blind and even suicidal. It has seemed as if no other inference or hypothesis were admissible, when we have seen men neglect to repair some little defect in the road near their premises, which they had to suffer from every day, and which might have been rectified in an hour or two, or less sometimes, just because others would derive some benefit from it as well as themselves. For months and months we have seen farmers plunging through rough, racki g and muddy places, with injury to wagons and harness, when a very little work would have removed the whole difficulty and the cause of it. But then others would have been benefited by their work as well as themselves, and therefore, though right in sight of their own windows, and though passing it several times every week, the ugly obstruction which had broken reaches and thills, and been the dread of many a traveler, stands unrepaired for months to the disgrace and inconvenience of a whole neighborhood, and especially of him who lives close by it. If the selfishness which prevented the needed repairs in such a case is not *truly blind* to its own interest and is not *suicidally* destroying itself, then our philosophy of the matter must be somewhere at fault. For the persons living nearest the bad spot would have been paid for all the little labor necessary a hundred fold, by saving of suffering and of loss of wear and tear of wagons and harness; and yet they submitted to it for months just because some others would have received a *little* benefit, even though they would have secured to themselves *many times more*. This is truly an astonishing exhibition of selfishness and perverted and depraved human nature.

But we took pen in hand to record a case which demonstrated most impressively to one neighborhood the great value of good roads, or of keeping roads in good repair. A gentleman from the state of New-York visited some of the Western States, during the spring months, and in one of them found a farm which exactly suited him, as he thought. From a village at a distance of a few miles, where he was staying, he had occasion to go out several times to look more particularly at the farm and fixings, and to talk over the proposed purchase. The road was bad in several places at first, but every time that he went over it, it seemed to be in a condition still worse than before. This had such an effect upon him that he gave up all thoughts of purchasing a location, in every other way suited to his taste. He argued that beside the *discomfort* of such a road, which was no small matter to him, it would inflict upon him many positive losses. He foresaw there would be many days in the course of a year when he could not travel it all, at least with any load or any comfort; and that there would be days when he could not carry his family to meeting as he might on a better road. He foresaw, too, that he never could carry off as much of a load of grain or wood or anything else as he could on a better road, and that the tear and wear, or damage, in the matters of carriages and harness would be much more than on a road kept in better repair. If this does not demonstrate that farms are *more valuable* for good roads near them, then the attempt to teach this much needed lesson may be given up in despair.

A Screw Stump Puller.

EDS. COUNTRY GENTLEMAN—In your valuable paper of May 10th, ONEIDA, of New-York Mills, inquires about a Stump Machine. Being a miller, and often having occasion to raise heavy bodies, and having found my hoisting screw to be a most valuable power, it suggested itself to my mind it would make a valuable stump machine, by the addition of a strong bench to attach the screw to; and if more power was required, a strong lever could be added, and the power increased to any amount that would be required. The cost of screw, at Hart & Munson's, Utica, would be $10. Having read the Cultivator and Country Gentleman from their commencement, I have never to my recollection seen the screw power recommended as a stump machine. O. STEVENSON. *Stevenson's Mills.*

SANDY SOILS.—Improve, permanently, your sandy soils, by hauling on and spreading as much clay as will change their constitutional texture, and give them that cohesibility, the want of which is the radical cause of their unproductiveness. This labor may be performed at intervals of leisure, and with almost equal facility at all seasons of the year.

Deep and Shallow Plowing.

Messrs Editors—In this age of agricultural improvement, to advocate *shallow*, in preference to *deep* plowing, is an analogism to be closely scrutinized before adopted. But, says the writer in the Country Gentleman of May 24th, "facts are stubborn things," and so they are; and by facts in his own practice, he establishes a plausible theory, that it is better to plow four inches deep than seven or eight, even on a soil of coarse sandy gravel,—a soil of all others supposed to be peculiarly adapted to deep cultivation, particularly in seasons of drouth, as the last three summers have been, and the present threatens to be. Mr. Brewer assures us that he shall resume the subject; I shall wait with interest for a further development of both his theory and practice; and in giving us these it would be gratifying and instructive to go more into the merits of the two kinds of plowing prospectively. If I can be convinced that the old method of surface cultivation is really the best and most profitable, although it is an exploded notion and mostly abandoned by improving cultivators of the soil, I will return to it, and thousands of others will do the same, for we Yankees are very apt to count the cost, and a great saving of expense in labor of team can be realized thereby.

Mr. Brewer speaks only of the crops that immediately followed the plowing, and here I think he is in error. He does not test the deep plowing for a succession of seasons. No doubt when the plow goes four inches deeper that ever it has done before, it throws up a new and colder substance, and it requires more than *one* season's exposure to the atmosphere to perfectly assimilate it to the wants of the growing plant; but follow it from year to year, gradually, say two inches deeper at each plowing, until you get a soil from four inches to twelve if you please. The summer's suns and the frosts of winter will do the work on these dormant stratas, and the results of fifteen years of this kind of cultivation will far exceed in profit the old method of shallow plowing, and surface cultivation.

Again, this deep plowing is better, either in a *wet* or in a *dry* season. In a season of drouth the moisture is retained in the broken earth, and the roots of the growing plants are sustained much longer than though the earth had been stirred but 3 or 4 inches; and in a season too wet, the surplus of water is not held so near the surface to the detriment of the crops, but the hard-pan being broken, it lets the water fall lower into the earth, and enables the growing crop to escape in a greater degree the drowning effects of a surplus of water.

I do not say that this deep plowing is best for *all* kinds of soils. There are lands naturally wet and heavy, stiff and clayey; I am not prepared to say how deep plowing would operate upon these. There are lands with an underlaying of quick sand; where this sand comes near the surface we should avoid striking it with the plow, for there is no vitality in it, and it should not be mixed with the cultivated soil. But there is not much land in the northern states, which ha been cropped long enough to lose its first natural elements of fertility, or as the writers say, "its virgin fertility," but what can be greatly improved by deep tilling. This is my theory; and a theory too, which I believe is well sustained by practice.

Twenty years ago last April, I purchased the farm on which I now reside; the cultivated portion is an alluvial soil on the Connecticut river, and the average yield of crops to the acre at that time, was corn 35 bushels, oats 30 bushels, hay three-fourths of a ton, and other products in proportion. In plowing I soon found it a very pleasant task both for the team and myself, as there were no obstructions, no stones, stumps or roots; the plow would glide along about 4 inches deep, as smoothly as though the under strata was a plank road. Shallow plowing was then in vogue, but it occurred to me that in my case, where the under strata was the same as at the surface, *alluvion*, made by the action of the river centuries ago—no hard-pan except an artificial one, beat down and hardened by many years of surface cultivation,—that to break into this under crust might not prove an injury. I commenced by plowing 6 inches deep instead of 4 inches, using plaster, ashes and lime upon the grain crops, and stocking to grass. When I came round to take up this piece again after 4 or 5 crops of hay, I run the plow again 6 inches deep, but before stocking to grass again, at the second and third plowing, I run the plow first 8 and then 10 inches deep, taking three crops of grain, always manuring heavily for corn, and sowing, broadcast, plaster upon the grass lands. Latterly for the last grain crop, I have run the plow to the depth of 12 inches. I have now obtained a soil of 10 to 12 inches, a rich dark loam, which a severe drouth but slightly effects, and a wet season like that of 1850, does not injure. Where corn is planted upon the inverted sod and the manure spread upon the top before breaking the sod, it should not be plowed over 6 inches deep, but this is not the best way to raise corn on my lands; oats are the first crop, corn the second; the manure spread broadcast at the rate of 40 ox-cart loads to the acre; using one of the deep tillers of the Eagle class of plows, manufactured by Ruggles, Nourse & Mason, (in my judgment the best now in use,)with a short mould-board and high in the standard, it breaks and pulverizes and mixes the under soil, decayed sod and the manure, most admirably, which, with a thorough application of the double harrow before planting, makes one of the richest and finest tilth for corn that can possibly be obtained.

I have given the average yield of crops upon my lands before this system of deep cultivation was commenced. I will now state what I deem to be the results of this change from shallow to deep plowing, aided to be sure by other thorough cultivation, a judicious routine of crops and the appliances of the specific or stimulating manures in a moderate degree. For the last seven years my corn crop has averaged to the acre, from 75 to 80 bushels, in fields of 5 to 12 acres; and the two last years the heaviest growth was over 100

bushels to the acre. One field of seven and a half acres, in 1853, measured one hundred and five bushels to the acre. The oat crop has ranged from 60 to 80 bushels to the acre, and the hay crop from two to three tons, the first and second crops after stocking being quite too coarse and heavy for profit—that is, a less quantity and better quality would be more profitable; yet I like to see my barns full in autumn, and in order to get the desirable crops of hay for the last three or four years of mowing, the first must necessarily be too heavy. Experience is said to be the best instructor, and I believe it; and in view of what I have learned from this source, I cannot but repeat what Mr. Brewer says—the man who writes for an agricultural journal must always say, "*plow deep*"—it may not enhance your crops the first or second year, but follow it, and in a reasonable time you will find your account in it with interest and profit. J. W. COLVILLE. *Springfield, Vt., June 4th*, 1855.

Deep Plowing—Guano, &c., on Wheat.

There is quite a controversy in some of the agricultural papers about deep and shallow tillage. That depends wholly on the subsoil. A few years ago I had some 800 oak and black walnut stumps pulled; many of them brought up earth from four to six feet deep, and from ten to seventeen feet square on the surface. The first year after the stumps were pulled, I put the field in wheat. Where the stumps stood, the wheat was not so good as the other part of the field, but it is again in wheat now, and I never saw any such wheat as is on the places where the stumps were pulled. You can see where every stump had been; the wheat is all of ten inches taller, stands far stockier on the ground, and looks as if a load of barn-yard manure had been laid down and not half spread, and wheat sown on it; the straw is stiff and bright. If so much had been raised by manure, the straw would have been soft and all flat on the ground before this. It is proof positive that deep tillage is every thing for *my* land.

I last fall put a ton of guano on ten acres, (not in the field where the stumps were pulled,) of wheat—that is, I sowed the guano, plowed it under, and sowed the wheat. I gave it a fair chance, sowing the guano on alternate lands through the field. From present appearance, I think it will pay. I also tried a ton of "Ta-Feu," (night-soil dried and deodorized,) but I have lost cost and trouble by that. If my guano wheat pleases me as well at harvest, I will try a few tons this fall. My wheat ought to be ready for harvest by 10th July, if the weather proves favorable, but the straw will be very large, and unless the weather is warm and dry it may be longer in ripening. In two weeks we may expect the wheat midge to make its appearance, if we are to have it, but I hope we may have nothing to destroy the crop this season, as every eatable is at famine prices. You may expect to hear from me again about the commencement of harvest.

JOHN JOHNSTON.

Near Geneva, June 8.

Medicinal Effects of Saleratus.

In the *Boston Medical and Surgical Journal*, not long since, Dr. ALCOTT published a paper, attributing much of disease and death to the free use of saleratus, which article he places in the list of irritant poisons. Mrs. STOWE, in her "*Sunny Memories*," attributes the sicklier appearance of American ladies, when compared with the English, to the same cause. These opinions have been copied into almost every newspaper and periodical in the country. The people, always afraid of poisons, whether medicinal or dietetic, have taken the alarm and are indeed in a quandary between sour bread and saleratus.

There is much of false reasoning in the world, and we regret to say the medical profession is not wholly free from it; arriving at false conclusions and awakening false alarms. Dr. Alcott says that two-fifths of all that are born, die before the fifth year, one half of which mortality he attributes to saleratus. Now if this be so, it is worthy of the candid consideration of every man and woman in the country, and its prohibition a fit subject of legislative enactment. But we opine it is not so;—that the danger to which Dr. Alcott turns alarmist,—exists only in his imagination. Admitting the proportion of infantile mortality to be as stated, full *one half* of all that die under five years of age do so before the completion of the first year, most of whom have never eaten bread or taken saleratus. During the last three years, in the city of Philadelphia, the number of deaths, during the first year of of life, was 8,259, while during the next four years, or between one and five, there was but 6,794, or on average of 1684 for each yearly period. Hence, it will be seen that infantile mortality is nearly *five times* as great, during the first year of life, when no saleratus is taken, as during the subsequent four years when more or less of that article is eaten. Now, if we admit the influence of saleratus at all, we must acknowledge that influence salutary; for infantile mortality is only one fifth as great, when used as before. It must be admitted then, that saleratus stands acquitted of the charge, which Dr. Alcott brings against it. The excessive mortality among children depends upon other causes, which it is not our purpose here to consider.

It is difficult to define a poison, so as to give it proper restrictions; suffice it to say that *common salt* belongs to the same class, and is an *irritant poison* in the same sense in which saleratus is said to be so, and is capable of producing death when largely taken; yet, it is necessary to human health, and an indispensable constituent of human organization. Half a teaspoonful of saleratus, properly diluted, can be taken at once, and even more, without injury; passing, as it does, rapidly out of the body by the various secretions; yet this quantity is sufficient for raising bread made from two pounds of flour, which bread is sufficient for a meal for ten persons. Hence a person might get, at a meal, the small quantity of three or four grains; but when it is considered that this amount, small as it is,

is nearly or wholly neutralized by the acid developed in the process of fermentation, we can but express our surprise that men or women of intelligence should attribute to it such disease and death-dealing consequences.

The culinary art is indeed in a deplorable condition, and our dietetic indulgences are doubtless the source of much suffering and disease; but, we apprehend, a culinary reform must commence elsewhere than in striking out the antacids. Dr. DRAKE, in his valuable work upon the diseases of North America, when speaking of the causes of disease, says, "when the dough for leavened bread, by excess of panary fermentation, has been charged with acetic acid, that product is not generally sufficiently neutralized by saleratus or soda, but the bread is eaten sour."

The excessive mortality of children in this country is indeed lamentable, but it is less in this country than in Europe, where Mrs. Stowe says less saleratus is used than here, and the poor health of adult females is a matter of regret, but its cause must be sought elsewhere than in our greater consumption of antacids. It is only by that love for hobby-riding, which is quite too common, that war is waged upon saleratus, for its dangerous properties exist wholly in the imagination.

O. C. GIBBS, M. D.

The Sheep Exhibition at Bath.

We give below the list of Premiums awarded by the "Wool Growers' Association of Western New-York," at their late Show at Bath. The number of sheep on the grounds is stated to have been about 300. At a meeting held on the evening of May 30th, it was resolved that the next Annual Show be held either at Penn Yan, Canandaigua, Avon, or Batavia, and the following list of officers were elected:

President — Hon. G. DENNISTON, Prattsburgh, Steuben county, N. Y.

Vice Presidents—Hector Hitchcock, Livingston Co.; W. T. Remer, Yates; Jno. D. Patterson, Chautauque; G. H. Wheeler, Steuben; T. C. Peters, Genesee; Thos. R Peck, Ontario; H. T. Brooks, Wyoming; Rawson Harmon, Monroe; Chas. Morrell, Tompkins; Amos Perrin, Alleghany; James H. Hotchkin, Steuben; Matthias Hutchinson, Cayuga; Gardiner Gould, Orleans; Lewis F. Allen, Erie; Hiram McCollum, Niagara; Albert G. Percy, Wayne.

Corr. Secretaries—Wm. S. Judd, Penn Yan, Yates; A. Y. Baker, Urbana, Steuben; N. B Mann, Livingston; Wm. A. Cook, Lima, Livingston; W. T. Remer, Penn Yan; Jas. Lyon, Bath, Steuben; Wm. B. Pratt, Prattsburgh, do.

Treasurer—Hon. Reuben Robie, Bath, Steuben Co.

Rec. Sec'y—Charles D. Champlin, Urbana, Steuben Co.

PREMIUMS AWARDED.

CLASS FIRST.—Sweepstakes pen, Calvin Ward, Richmond, Ontario Co., $75.

Best Buck over 2 years old, Wm Baker, Urbana, Steuben, $50; 2d, Julius Stickney, Shoreham, Addison Co. Vt., $40; 3d, Joshua Healy, Dansville, Steuben, N. Y., $30; 4th, Levi Gray, Wheeler, Steuben, $20; Calvin Ward, $10.

CLASS SECOND.—Best 5 Ewes and lambs, Joshua Raplee, Penn Yan, Yates, $30; 2d, Orlando Shepard, Urbana, Steuben, $20; 3d, O. F. Marshall, Wheeler, Steuben, $10.

Best 5 Ewes, 2 years old, Wm. Baker, Urbana, $20; 2d, Calvin Ward, Richmond, $15; 3d, G. H. Wheeler, Wheeler, Steuben, $10.

CLASS THIRD.—Best 5 Ewes 1 year old, Thos. R Peck, West Bloomfield, Ontario, $20; 2d Calvin Ward, Richmond, $15; 3d, Grattan H. Wheeler, Wheeler, $10.

CLASS FOURTH.—Best Buck 2 years old, W. T. Remer, Penn Yan, $30; 2d. Julius Stickney, Shoreham, Vt., $20; 3d, Orlando Shepard, Urbana, $10.

Best Buck 1 year old, W T Remer, Penn Yan, $20; 2d, E. F. Leech, W. Bloomfield, $15; 3d, A. Y. Baker, Urbana, $10.

CLASS FIFTH.—Best Ewe, Joshua Raplee, Penn Yan, $10. Best 3 Ewes, P. F. Myrtle, G. H. Wheeler, Orlando Shepard, $15.

The Chinch Bug.

CHRISTY'S PRAIRIE, Ind., May 26th, 1855.

Mr. TUCKER—I send you a few specimens of the *corn fly*—the most destructive insect that has ever appeared in this part of the country. If they come to hand alive, I would advise you to keep them close prisoners; for they increase very rapidly, and you might have more of them on hand than you would desire.

I had purposed writing to you, to make some inquiry respecting this insect; supposing, of course, that it was well known through the country, and especially to editors of agricultural papers. I was told, however, a few days ago, by the Rev. T. LOWRY, of Park County, that he had written to you on this subject, and was informed that it was the first time you had heard of the existence of such an insect. The name he gave it, if I mistake not, was the *corn chinch*, the same that it has sometimes been called by here. In North Carolina, where it is said to have existed many years, I am told that it is called the *chinch bug*. But I would consider no name more appropriate than the one I have given it, the *corn fly*, as it is properly a fly, not a bug; and commits its ravages on all kinds of corn that grow here, wheat, rye and oats, as well as maize. It also attacks some of the more succulent grasses, particularly the annuals.

In the latter part of May, it commences breeding. At what precise time the young swarms may first be seen alive, I am not able to say, nor can I tell whether they are produced in successive swarms, through the season, or not, but judging from the myriads that appear soon after wheat harvest and the apparently regular increase of their numbers, as they spread over large fields of maize, especially in dry seasons, it seems probable that they are produced in regular succession through the entire season.

The first time they were ever observed in this vicinity, so far as I have been able to ascertain, was nine years ago last summer. They were seen in a cornfield, about three miles from this place. They appeared to come from the stubble of a wheat field that bordered on the corn. They did but little damage. A few successive days of rainy weather put a stop to their progress, and nothing more was seen of them, that season. Two years later, they appeared on the farm of one of my neighbors, about half a mile distant. They came apparently, as before, from wheat stubble, though none had been observed in the wheat while growing; and they began on that part of the corn adjacent to it. But few appeared at this time, and not much damage was done. In 1851, I observed them for the first time, on the farm where I now reside. The field in which they made their appearance had corn on one side and oats on the opposite side, with a strip of wheat between They were seen immediately after the wheat was cut, on the rows of corn next to the stubble; and were so numerous, as to cover from one fourth to one half of the stalk, in many of the hills. The corn soon began to wither. They did not devour the solid parts of the plant, but pierced the outer part, or skin, full of holes, or destroyed it in large patches, here and there, over the stalk, and appeared to feed on the juice. A few rows next to the wheat, were completely destroyed. The crop was more or less injured to the distance of about eight rods from the stubble. On the opposite side, the oats were killed to the distance of two or three rods from the wheat. The remainder ripened without injury.

They appeared again the next year, and about the same time of the year; but did little damage.

Strange to say, it had not yet entered my thoughts, that they had done, or could do, any damage to wheat. The next spring, (1853,) my wheat looked unusually promising. I knew the wheat fly was found in it the fall previous, and expected it would suffer some injury, but little expected it would have to encounter a more

destructive enemy in connection with this. When it had grown to the height of a foot or more, I observed that more than half of it had stopped growing. This portion was only six or eight inches in height, and it grew no more, but withered and died; from what cause, I could not imagine. The same fly appeared again in the corn, after the wheat was cut. The rank growth of the corn, together with one or two heavy showers, prevented it from doing much injury.

Last summer, there was the same appearance in the wheat, as the summer previous. A part of it dwindled away, after it had grown to the height of a few inches. At the time of cutting the wheat, these insects were observed, in motion towards the corn, which was close by. In a few days, the corn nearest to the stubble, was so covered with them, as to appear, at a little distance, as if covered with black paint. The corn was backward and dwarfish, and the season excessively dry, both of which circumstances favored their destructive effects. About fifteen acres of corn was destroyed by them. They swept over about forty acres more, some parts of which were nearly destroyed, others only slightly injured. One of my neighbors, had twenty-six acres of corn completely destroyed by them last summer, and fifty acres more greatly damaged. There was not a cornfield on the prairie, in which the crop was not greatly damaged. I do not know that they have ever been seen in this region, anywhere else than on the prairies, till last summer. Then, they were seen on farms formerly covered with timber, many miles distant from any prairie.

The attention of people here, was so thoroughly called to this insect, last summer, that when it appeared this spring, it was readily recognized. It was first observed on fences, or flying about, and alighting here and there, like other winged insects. Soon it was found about the roots of wheat,—then in oatfields, and in timothy grass. Wherever it has been seen among grain or grass, some of the blades were seen to turn yellow, and the growth to be checked, or stopped entirely; and in many cases, the whole plant completely killed. Probably, not less than one third of the wheat crop, in this vicinity has already been destroyed by them; and their destructive operations are still in progress.

The reasons why they have not before been observed in the early part of the season, are these. In the first place, they have never before been so numerous in the spring season, as at present. And next, when in wheat they are usually partly or entirely concealed by the blades near the root; and would not be likely to be distinguished from other insects without close observation. E. C. SMITH.

Comments on the above by Dr. A. Fitch.

MR. TUCKER—The facts which are embodied in the communication from Mr. SMITH, of Indiana, are deeply interesting, and well merit insertion in your widely circulated publications, as they form a valuable addition to what is already upon record, respecting one of the most pernicious insects in our country. Some notices of this same insect, from correspondents in North Carolina, may be found in the early volumes of the Cultivator, and valuable articles relating to it, from the pens of Dr. LE BARRON and others, may be met with in recent volumes of the Prairie Farmer. As the specimens in the quill forwarded by Mr. SMITH show, it is the same insect which, in an excursion through Northern Illinois, last autumn, I found in myriads, over a large district of country; and from all quarters, I received accounts of its destructiveness, of much the same purport as is given in Mr. SMITH'S communication. As soon as I obtain leisure, I will prepare a description and history of this important insect, for your readers; and therefore, I merely observe at present, that it is the insect which is generally known by the name of the CHINCH BUG—not Chintz, as the word is sometimes erroneously spelled. I have searched my library in vain for information as to the derivation and import of this word—Chinch. Webster supposes it to come from the Latin name for a bug, *cimex*, through the Italian *cimice*, but this appears to me to be rather far-fetched and doubtful. In Dr. HILL'S Decade of Curious Insects, published in 1773, a species of Thrips is described under the name of the Straw-colored *Chinch*. And if any one under whose eye these remarks fall, is sufficiently versed in philology to throw any light upon the origin of this word, we shall be happy to have him do so; for, in connection with this insect, it has become current in our country, and will thus be perpetuated.

Though the name Chinch bug is generally applied to this insect, it has obtained other names in particular localities. All over North-western Illinois, they have been called Mormon lice, in consequence of their having come into that section about the same time that the self-styled Latter-day Saints commenced their settlement at Nauvoo, many ignorant people firmly believing they were introduced there by these deluded fanatics. And it appears from Mr. SMITH'S letter, that in his vicinity, this insect is called the Corn fly. This name, however, Mr. SMITH himself will be aware, when he reflects further, is by no means so appropriate for this insect, as he supposed at the moment of writing. The name "fly" properly belongs only to insects with clear and glass-like wings, like the common house-fly; while the name "bug," although it is in this country currently applied to almost all insects, strictly belongs only to those which pertain to the Order *Hemiptera*, which embraces all those flat-backed insects which have a slender, sharp-pointed beak, for puncturing and sucking the fluids of those plants or animals which they infest—such insects as the common squash or pumpkin bug, and that disgusting object which at one time and another has obtruded itself upon the notice of every person in our land, the bed-bug. The species under consideration, moreover, exhales the same disagreeable odor which is peculiar to the insects of this group. There can, therefore, be no more appropriate name for it, than that by which it has been so long and so widely known—that of *Chinch Bug*.

This insect was first scientifically described by Mr. SAY, in a pamphlet upon the North American insects of this Order, published at New Harmony, Indiana, in 1831. He described it under the name of *Lygæus leucopterus*, i. e, the *white-winged Lygæus*. Since that time the genus *Lygæus* has been cut up into quite a number of new genera, and I am not aware that it has ever been published, to which of these our insect pertains. It belongs to the genus *Micropus*, proposed by the French entomologist, M. SPINOLA, in his Essay upon Hemipterous Insects, published in 1840, page 218. This name, derived from a couple of Greek words, meaning *small-footed*, has allusion to the legs of these

insects, which are not long and slender, and the hind pair in particular are no longer than the others, contrary to what is generally the case in the insects of this group. *Micropus leucopterus*, therefore, is now the correct technical name of the Chinch bug.

It is a singular fact, and one which shows that the science of entomology is of almost endless extent, that in those parts of Europe, where for several generations a host of collectors and men of science have been assiduously engaged in gathering and describing every insect which those countries contain, new species continue to turn up almost every year. Even in the environs of the city of Paris, which may be regarded as the head-quarters of this science, and where almost every inch of the ground has often been examined with the greatest care and the most searching scrutiny, my esteemed friend and correspondent, Dr. SIGNORET, has recently discovered a new insect, which, from the specimens he has been so kind as to send me, I find to be almost identical with the chinch bug of this country. This species he proposes to name the *Micropus Spinolæ*, in honor of the distinguished entomologist who founded the genus to which it pertains, and who has done so much to elucidate this important Order of insects. In view of such facts, who can refrain from devoutly exclaiming with the inspired Psalmist, "How manifold are thy works, O Lord!" And what an amount of close observation and patient, persevering research will it require to render our knowledge of the insects of our own country tolerably complete. ASA FITCH. *June* 4, 1855.

The Chilian Guano Fraud.

The following letter, had it been sent direct to us, would have been published on the 14th inst.; but having been enclosed to a gentleman of this city, it failed to reach us in season for an earlier insertion. We hope our readers will give it an attentive perusal. It is a most remarkable letter. It was, we suppose, intended as a vindication. But it is a confession—such a confession as we had not anticipated receiving from one of the parties engaged in this transaction.

BOSTON, June 7, 1855.

To the Editors of the Country Gentleman:

My attention has been called, and I last evening for the first time saw several articles published in your paper in reference to what you please to term fraudulent Guano.

I beg to inform you the article marked "Chilian Guano," is simply a mixture of Mexican and Peruvian guano, in about the proportions of three-fourths of the former and one-fourth of the latter, with 2 to 3 pr. ct. of sulphate of ammonia added. This is the whole extent of the fraud, if you can make it one. The price of Mexican guano is $25 per ton—that of Peruvian every one knows. The mixture I have authorized sold at $35, and am satisfied that every one who has bought it, has got an equivalent for his money, and further, will find by his results he has not been defrauded.

I was induced to have this mixture made from two motives. Last season several parties who applied Mexican and Peruvian guano, in the proportion of two-thirds and one-third of the latter, reported better crops than where they used Peruvian guano along side by itself. Again, many farmers think a guano that has no smell, like the Mexican, is worthless, and will not buy it from its want of it. In this way they would learn to use and appreciate it after they had tried and understood it.

So far the only instance of unfavorable effect by the action of this mixture, is the one you cite from Petersburg. I feel confident that in the autumn I can give you satisfactory documentary evidence of its good effects.

I think you were unfortunate in the sample sent you for analysis, as it is entirely unlike some 8 or 10 different ones that have been made of it by other chemists.

I send you a printed copy of Dr. HAYES' analysis, that has been commented upon by you, by which you will perceive you were mistaken in saying he did not give the ammonia. You will find the percentage of ammonia given at the foot of each analysis.

The above are the simple facts of the whole matter. I ask, as an act of justice to me, that you publish this letter, with a request to those papers who have copied your articles, to do the same with this.

I trust your sense of justice to yourself will induce you to take back the charge of fraud in connection with this guano, when you see the money value of its component parts is fully equal to the price asked for it. I am, Sir, with due respect, yours, PHILO S. SHELTON.

Here we have an admission from one of the principal owners and venders, that the "Chilian Guano" is not an imported article—that it did not "come from the coast of Chili," but that it is a compound made in this country.

We trust farmers will appreciate the "motives" assigned by Mr. SHELTON for endeavoring to deceive them; and that the "eight or ten different" chemists who have been employed to analyse this "mixture," under the supposition that it was a *genuine* "Chilian guano," will feel duly honored. Mr. S. says "this is the whole extent of the fraud, *if you can make it one.*" A fraud according to WEBSTER, is a deception; generally a deception in buying and selling. Mr. S. himself fully admits that he attempted to deceive "many farmers" by giving to Mexican guano a "smell" of ammonia and a false name, and even had we no other evidence of his connection with this business than his own letter, we should be warranted in charging him with "fraud," of however harmless a nature it might be. But unfortunately Mr. S. has only made a partial confession, and our intimate acquaintance with the whole manipulations of the manufacture of "Chilian guano," compels us to believe that the manufacturers ers of this article are guilty of a gross, systematic and unmitigated fraud. If it is a simple "mixture" of Peruvian and Mexican guano with a little sulphate of ammonia, as Mr. S. states, why was it not made in Boston. Why was it taken to Newark, *and from there three miles over a heavy road into the country?* Surely no business man, such as we suppose Mr. SHELTON to be, would incur the expense of freight from Boston and return and *six miles of heavy land carriage*, simply for the purpose of mixing Mexican and Peruvian guano and a little sulphate of ammonia together. We feel compelled to conclude that Mr. S. has confessed only part of the truth.

We have even still a lingering hope that Mr. S. is not as guilty as the actual manufacturer of the article. Mr. S. intended to deceive "many farmers,"—perhaps

as he states, for their own good—and it may turn out that the person he engaged to *mix the articles together*, deceived *him*. He *most certainly did*, if Mr. S. thinks that the "Chilian guano" is compounded of the ingredients stated in the above letter. Mr. S. thinks we were "unfortunate in the sample sent us for analysis." We beg to assure him that we took both samples with our own hands, from a large quantity—some 200 tons,—of the Mexican and Chilian guano, from a warehouse in Newark, where it was brought direct from the factory. Furthermore we would again inform Mr. S. that whether he knows it or not, the "Chilian guano" is compounded of a very inferior Mexican guano,—furnished as we were informed by "a Mr SHELTON of Boston,"—of sugar-house scum, of salt and plaster, with the addition of a little Peruvian guano, and quick lime to set free the ammonia and give the "smell" desired by "many farmers." If Mr. S. does not credit this, let him proceed to Newark and investigate the matter as we have done, and he will be convinced of the truth of our assertions.

In regard to our statement that Dr. HAYES did not give the per centage of ammonia, we have to say that we copied the analyses from the *Oxford (Me.) Democrat*, the editor of which is agent for the Mexican and Chilian Guano, Mapes' superphosphates, &c., and whom we supposed well informed on the subject. *In these analyses the per centage of ammonia is not given.* We endeavored to get the original "printed copy of Dr. HAYES' analysis," but without success, and even in the one sent by Mr. SHELTON a portion seems to have been cut off from the bottom. We should be glad of a perfect copy, and will do Dr. HAYES full justice.

The correctness of our analysis of "Chilian guano," and of our estimate of its value, are confirmed by Mr. PLEASANTS and Mr. REESE, the guano inspectors of Petersburg and Baltimore, both of whom made an analysis of the article; and furthermore, on the correctness of their analyses being called in question, the matter was referred to Dr. STEWART of Baltimore, who analyzed the "Chilian guano," and decided it worth not more than $13 per ton, or two dollars per ton less than our estimate of its "outside value." Yet in the face of all this, Mr. S. would persuade us that the article is well worth $35 per ton! It would appear that the large quantity from which we took a portion for analysis, and also the cargoes sent to Petersburg and Baltimore, were all "unfortunate" samples of Chilian guano.

In pursuance of Mr. SHELTON's suggestion, we request those papers which have copied our previous articles, to publish also the foregoing.

CABBAGE GRUB.—M. ROBERTS, Chateaugay, Franklin Co., N. Y., writes that a "white grub is committing great havoc among all kinds of cabbage in this section of the country. It may be destroyed in the following manner. About nine o'clock in the evening the grubs make their appearance at the top of the cabbage, when they may easily be removed into a dish, and killed. This plan, followed up for a few nights, will soon rid you of these trespassers."

Grow your own Clover Seed.

We are acquainted with intelligent practical farmers in Western New-York, who believe it profitable to seed down *all* their wheat and barley land every year with red clover. A well known and successful cultivator of light land, near Rochester, has abandoned altogether, the use of the summer fallow, depending on corn and other hoe crops to enable him to keep the land clean. After corn he frequently sows barley, seeding it down with 10 lbs. of clover per acre, and, in the fall, after the barley has been harvested, the clover affords good pasture for sheep or cattle, or, if feed is abundant, it is allowed to grow uncropped, and is turned under, the same fall, and the field sown with wheat on one furrow. He is satisfied that the value of the feed in the fall and the fertilizing effect the clover roots, &c., have on the subsequent wheat crop, more than pay the cost of the clover seed. Others are convinced that, where corn is to follow, it is highly profitable to seed down a wheat or barley crop, with clover, and allow it to get a good start the next spring before the land is plowed up for the corn crop. The clover, also, in this case furnishes much fertilizing matter, and the practice has the additional advantage of furnishing green food for the grubs and worms till the corn has attained a good start, and is capable of sustaining their depredations without material injury.

It is possible that, under such a system, the land may in time become exhausted—not of potash, soda, or lime or of sulphuric or phosphoric acid, but of some peculiar combinations of these or other elements of plants which, as yet, neither the chemist in his laboratory, nor the experimenter in the field has been able to discover. In other words, our fields, like the light soils of England under the four course system of rotation, may become "clover sick," and refuse to grow red clover oftener than once in eight or twelve years. But, at present, we apprehend no such a result. We believe clover sickness is unknown in this country, and should be glad to hear from our correspondents on this point. Our object is rather to commend the extensive cultivation of clover, and to recommend the systems aluded to, or a modification of them, to those who have hitherto seeded down, at most, only a portion of their wheat or barley crop with clover. Be assured that, on all farms where wheat, corn, barley, oats and other cereal grasses are extensively cultivated, *it will abundantly pay* to grow as much clover as possible.

Why clover, peas, beans, tares, sainfoin, lupins and other leguminous plants are so advantageous in rotation with wheat, barley, oats, Indian corn and other graineous plants, we will not now stop to inquire. The fact that they are so cannot be denied, and whether it is owing to their requiring a different proportion of mineral substances, or whether, principally to the fact that they do not require for their growth more ammonia than they contain, while the wheat, corn, and other plants of the same order destroy large quantities of this expensive fertilizer, is a question which it is not neces-

sary to decide before we can act upon the teachings of experience.

In order to induce farmers to sow more clover, it is very important that they be persuaded to *grow their own clover seed*; for it will be admitted that he who has to pay $5 to $8 per bushel to the city merchant or seedsman will be much more sparing of clover seed than the farmer who raises an abundance of his own. Fortunately this climate is not only well suited to the growth of large crops of clover for fodder, or for turning under as a fertilizer, but it is also well adapted for the production of large crops of excellent clover seed. Why, then, is it so high? why is it that every farmer does not raise at least as much as he needs for his own use? There is certainly no more necessity for buying clover seed, than there is for buying seed wheat, corn, barley or oats.

If not already done, let every farmer select a few acres of his cleanest clover, cut it as early as possible, and then allow it to go to seed. If the land is in good heart, and clean, nothing more is required; if poor, 150 to 200 lbs. of good Peruvian guano per acre sown broadcast as soon as the first crop is removed, during showery weather, will be found a beneficial, and, we have little doubt a profitable application. Plaster increases the foliage of the plants, but, it is said, retards the ripening of the seed. Four bushels of clean seed per acre is a fair, average crop; but eight bushels may easily be grown by cutting the first crop early, or by eating it off by sheep till the middle of May or first of June. If the land is not rich enough it should be well manured, early in the spring, or, still better, in the fall, with well rotted barn-yard dung. It is important to have the clover as early as possible, since it is frequently injured by frosts in the autumn. After the seed is matured, however, *frost does not hurt it*; and, now that we have several excellent machines for taking off the heads of clover seed, thus avoiding the expense and labor of curing the clover in cool wet weather, it may be left out late in the fall without any loss or inconvenience.

We repeat, and we would that every farmer in the country could hear us, *grow your own clover seed*, and never, without special reason, sow a field of wheat or barley without seeding it down, in the spring, with from 10 to 15 lbs. of red clover per acre. We believe it will pay, even though the clover sod is plowed up the next spring. We will add, too, that, where plaster can be had for less than $5 per ton, and where experience proves it good for clover, the practice of sowing a bushel of plaster per acre *at the time of sowing the clover seed*, is worthy of extensive adoption. We think it of great benefit in enabling the young clover plants to stand the dreuth.

Scurvy Pigs.—Wash them clean, and rub slightly with buttermilk or grease; give them a dry bed, always in a warm place, and plenty of wholesome foodt We never saw a pig yet so incorrigible as to withstand this treatment, and keep scurvy long.—*New Eng. Farmer.*

Packing Buds and Grafts.

We have on former occasions given directions on this subject, but have observed among the packages of grafts occasionally received, indications that the best modes are not well understood, even by some intelligent cultivators of fine fruit, by whom errors are often committed.

Since the reduction of postage, the transmission of buds and grafts by mail, has become a great convenience to fruit raisers and pomologists, and the only difficulty is to put them up so that they shall carry long distances with safety. The essential requisites, are to secure the moisture they contain from evaporation, and to prevent bruising.

To prevent evaporation, it was formerly the practice to encase them in muslin covered with a coating of grafting wax; but this was found inconvenient to apply and troublesome in removal. The writer therefore introduced an improvement some fifteen years since, which has since been generally adopted throughout the country. This is to wrap the grafts in *oil-silk*, selecting a piece large enough to cover them and to bend it up over the ends, so as to bring it down *air-tight* on every part, by winding a fine thread around it at very short intervals from end to end. This forms a complete air-tight case, through which the moisture from the graft or buds cannot escape; and if well put up, *grafts* may be sent in this way across the Atlantic without the slightest risk. Buds in summer, being greener and more succulent, and the temperature being warmer, cannot be forwarded to such great distances. Peach buds, and other kinds cut before the wood is well ripened and hardened, should not remain in this condition longer than three or four days; but well ripened shoots of the pear and apple, near the close of the season of growth, will continue uninjured for at least a fortnight.

To prevent bruising during the period of conveyance, cotton batting, or several thicknesses of soft paper, should be placed *outside* the oil-silk wrapper. A pomological friend, to whom we gave instructions some years since in sending grafts, took the especial precaution of applying a coating of cotton batting *first* to to the grafts, and then encased them in the oil-cloth. The consequence was that the dry cotton in immediate contact, absorbed the moisture from the grafts, and on their arrival they were found as dry as if exposed to a summer sun. In another instance, several thicknesses of soft paper were used for a similar purpose, and with a like result. For this reason, even the strip of paper containing the name, should be as small as possible; and it is still better to write it with a finely pointed soft pencil on a shaved portion of the scion—or to cut notches as reference-numbers.

When large quantities of scions are sent by "Express," a different mode of packing is to be adopted. We have sometimes received them, withered and dried, without anything to preserve their moisture; and in one instance a bundle of grafts was sent *with the leaves left on to keep them moist*, but instead of producing

this result, the leaves had operated as evaporators (as they always do,) and had pumped all the moisture out of the grafts, through the leaf-stalks, and they were thoroughly seasoned when they came to hand. The leaves should always be removed, and the grafts packed in alternating layers with fine damp moss, and with a good moss-coating outside. Damp sawdust is a good substitute for moss, for packages of moderate size. The packing should not be *wet*, as in this case it will cause the scions to become water-soaked and tend to induce decay. Buds at mid-summer may be put up in this way, and will keep without injury from three days to a week or more, according to the degree of maturity which the wood has obtained.

Connecticut Agricultural Society.

The recent organization of this society is arousing great enthusiasm among the farmers of the state. The indefatigable Secretary of the Society seems almost omnipresent. With scarcely a day for rest, he has, since his appointment, prepared, corrected, and issued the Transactions of the past year; a prize list for the next; attended all the meetings; secured funds to the amount of $3000, for the expenses of the Fair, beside an appropriation of $2500 from the State Legislature; carried on the correspondence of the office, and visiting all parts of the state, calling upon the many manufacturers and farmers in person, and inspiring them with his own enthusiasm.

The prospects for the next Fair at Hartford, Oct. 9th, 10th, 11th, and 12th, are highly encouraging. The Rail Road companies, with a single exception, have, with a prudent regard to their own interest, furnished every facility in their power, carrying all articles free, and with unusual liberality, presented to the Secretary free passes for the year. This is a favor to the society, profitable to the companies, and worthy of imitation.

The little city of Hartford has contributed $3000, towards the expenses of the Fair; a fine lot has been selected, and buildings contracted for, adapted to the exhibition of all the products of agriculture and the mechanic arts. There is perhaps no part of the country, or even of the world, which has, according to its population, a greater variety of manufactures than Connecticut. These manufacturers have been visited by the Secretary, and are pledged to unite with the farmers of the state, in making the next fair the greatest and best ever held in New England.

The whole community is aroused. Among the producers there are those in all parts of the state striving in view of the Fair to excel in their various vocations. There is no part of the state in which there is not a garden, fruit yard, farm or shop, to show progress made in view of the coming Fair.

The committee of arrangements are expecting an immense gathering.

The Rail Road companies are enlarging their facilities for transportation, and the citizens of Hartford are preparing for the entertainment of at least 100,000 people at the Fair.

The premium list, some $7000, is liberal towards exhibitors from other states, and it is earnestly hoped that the best agriculturists from abroad will be present, to share in the festivities of the anniversary, and witness the triumphs of Connecticut, (the hale mother of states,) in view of her second successful State Fair. J. T. A. *West Cornwall, Ct., June 17th*, 1855.

Kohl Rabi—Billing's Corn Planter, &c.

MR. TUCKER—Among some packages of seeds obtained from the Patent Office in the last spring, was one labeled, "Green Topped Kohl Rabi." I have sown some of them and they have come up finely, looking very much like cabbage plants. I have thinned them to two or three inches apart, and must wait for information as to their further treatment. Will Mr. SANDERS—who so often favors us with his valuable communications—or some one else enlighten me.

Rains are abundant just now, and grass, which in this vicinity was almost killed by the severity of the winter and the drouth combined, is rapidly improving.

The farmers here have been riding almost to the death an agricultural hobby, in the shape of a new corn planter, called Billing's improved, I think. It is an ingeniously contrived machine, yet not at all complicated, and will plant corn, broom corn or beans at the distance of 20 and 40 inches *in hills*, dropping also any finely prepared fertilizer, either with the seed or at the distance of an inch or two.

This fell in nicely with the notions of many of our people, who are much given to Homœpathic doses of manure, and sometimes shockingly diluted too. The planter was put to work, and as the season was late almost every one was anxious to use it. Planting was done up with great despatch, and the smart little hobby was turned out. The result was just what might have been expected. In many instances the corn came up well. In others, owing to shallow plowing and a poor preparation of the soil, otherwise; it could not be sufficiently covered, and of course could not vegetate. In other cases still, where the ground was mellow and dry, and the planter loaded with some 20 or 30 lbs. of fertilizing material, the seed sunk so deep as to render the prospect of vegetation almost hopeless, and even when a few struggling blades made their appearance, they looked as though the vital principle had become pretty much exhausted in the effort. I would have no one infer from this, that the planter is in fault. But it would be well if we could remember that many of our improved farm implements presuppose a higher state of cultivation than generally prevails, and also that in their use judgment and experience are of great importance. Failures should not discourage us, but make us more cautious in future.

You have probably heard before this of the two very liberal premiums offered by the Mass. Ag. Society—one of six hundred dollars—for the purpose of testing the utility of Mowing Machines in general, and another of one thousand dollars to prove the comparative merits of them in use. If properly managed it woul seem as though they might be the means of doing much to set le these two points. E. N. N. *Hadley, Mass. June* 12, 1855.

Kohl rabi is a variety of cabbage, and should be transplanted in hills, the same as cabbage.

Turnips among Corn—Cabbage Lice, &c.

EDITORS OF THE COUNTRY GENTLEMAN—Your remarks of June 7th, on "root crops," are valuable. I thank you for them. You advise the scattering of turnip seed among corn. Would you do this where you intend to plant the same ground with corn next year? It is the belief of some persons that corn will not do well after turnips. My limited experience is in keeping with this belief. I should like to know whether there is good foundation for this opinion.

Mr. SANDER'S article on "*late cabbage*," is good; but I shall continue to use the dibble notwithstanding his opinion to the contrary. I can set plants much faster with it than in any other way, and if he will come and look at my ground, I think he will say that the roots will not be troubled to find their way out of the hole. I am trying the tobacco remedy for the fly, but find it no small matter to pulverize the tobacco, and sift it over fifteen or twenty thousand plants in the field.

Mr. S. said nothing about *lice* on cabbage. Last year this enemy did me some damage, and although I find none yet in my field this year, I have seen them in another field, and shall probably soon find them nearer home. Is there any remedy for them, and if so, what?

I have somewhere read or heard of putting late cabbage between the rows of corn. What do you think of it?

The crops in this region look better than for two years past, except *grass*, and the frequent rains are bringing this forward finely now. Potatoes never appeared better, but the rot may over overtake them yet. Ashes and plaster, used freely on the tops, I believe to be almost a certain remedy. A farmer of my acquaintance in Fairfield County, used to have no diseased potatoes during those sad years of 1844 and onward, and his practice was, and is, to give the field two or three dressings of ashes and plaster, the first time sifting over each hill, and after that sowing broad cast, two bushels of ashes and one of plaster to the acre, always applying them when the tops are wet. I have never seen rotten potatoes where this was thoroughly done.

Please answer my inquiry about lice on cabbage, in the next number if you can. J. S. W. *New Britain, Conn., June* 22, 1855.

We have frequently heard it stated that corn does not do well after turnips, but have never seen any evidence of the fact. It may well be, however, if a heavy crop of turnips is grown *and removed from the land*, and the corn planted without any manure, that it would prove a poor crop. But in recommending the extensive cultivation of turnips as an alternating crop with wheat, corn, oats, &c., we took it for granted that the turnips would be consumed on the land, or that the manure made from this consumption by animals in the barn-yard, would be returned to the soil. Of course if this be not done, the land instead of being enriched would be impoverished by the growth of turnips. We place great faith in the general opinion of experienced farmers, but we cannot doubt that if turnips are sown among corn, and are consumed on the land in the fall, other things being equal, the corn crop, the next year, would be much the better for it. The same remarks, probably hold true in regard to cabbage, so far as increasing the fertility of the soil is concerned. It may be, however, that, as cabbage are larger than the small, late turnips we are speaking of, they would interfere with the growth and ripening of the corn. Practical trial must decide this matter, and we should be glad to hear from any of our correspondents who have had experience in growing turnips or cabbages among corn.

Soot, quick-lime and ashes, we have seen used to destroy the cabbage lice, but not with that success which might be anticipated from the statements of writers. We have had more success with soot (coal soot, but we suppose wood soot would do just as good,) than anything else we have used. On cabbage in the garden we have destroyed lice with guano water—say a tea-spoonful to a gallon of water. At least, it either destroyed the lice or induced such a vigorous growth that the plants were enabled to withstand the depredations of the aphides. If guano is used to any extent on the farm, the *washings of the guano bags* can always be used to good advantage in the garden, but be careful that they are not too strong

Value of Mules.

In regard to Mules—having handled them most of my life, I gtve your readers some of their qualities. The mule is a very hardy animal, fit for pretty hard service at 3 years old—does not mature till 8—requires a great deal of exercise—should never be over urged when young—and if tired out in breaking in, never has good spirits afterward. If they are always treated kindly, are the kindest of animals, never stubborn. A mule will always pull in the harness from the first—will at 3 years of age do as much work as a horse one-fourth or one-sixth heavier, on from one-half to two-thirds the amount of grain. They are not half so liable to accidents as horses, and recover from injuries much more readily than horses.

It is quite important to get them, if used in pairs, of even spirits. A lazy mule cannot be made to do his part—a spirited mule will always retain his spirits if not over urged. They are more suited for draught than the road, though I have seen them superior to the best road horees. They are easy in their gait for the saddle, but generally the shoulders are too low for the comfort and safety of the rider.

When steady every day work is required, no animal can compare with the mule; he thrives better on his steady through hard work, if not over urged, and well fed, than he will in the stable.

They are more unruly than horses, requiring more exercise and having a more roving disposition. They become attached to home, and never kick a kind mas-

ter. No animal is more observing than the mule. Were I to break in one thousand mules, I would not use a whip in any case, and would in all cases gain their confidence and then the work is done.

If used for heavy work, they should be driven upon a walk at all times—as also should horses. Fifteen hands high, is the best size for team or farm work. Such a pair, if well made and properly fed, will do very heavy work. Their strength is astonishing.

If any of your readers would like to know where they can see young and older ones, they can call on Mr. JAMES BUCKELEW at Jamesburg, on the Camden and Amboy Rail Road, who have one or two hundred on hand at work most of the time, or the Messrs. BISHOP at Jersey city, who also deal in them. Our finest mules are brought from Kentucky. Mules 15 hands high, 3 years old, are worth from $300 to $500 per pair, and some extra ones readily command $600. DAVID LYMAN. *Middlefield, Ct., June* 26, 1855.

Cure for Scours in Cattle.

MESSRS. EDITORS—I notice in the Country Gentleman of the 14th inst. that a correspondent wishes to know of a sure remedy for scours in cows.

I do not know as I can give a sure remedy for all cases, but I can state a case that occurred in my own dairy of cows, which was I think in June 1853.

One of my best cows was attacked with what I called the *scours* in its worst form, discharging nothing but frothy water; she was giving a 12 quart pail full of milk at each milking, at the time, and so violent was the disease that in a day and a half she shrunk to 2 quarts.

I became somewhat alarmed about her, and inquired of every man I saw, if they could tell me what would help her. At length one man told me to give her some hen's eggs, shells and all; and if she did not chew her cud, to scrape some sweet elder bark, and give her for a cud. Thinking no time was to be lost, I immediately gave her six eggs, shells and all—also the elder bark. This was in the forenoon, and at evening I repeated the dose of eggs, and again the next morning, which effected a cure; but she did not come up to her usual quantity of milk—nine quarts of milk twice a day, being as much as she ever gave after that.

About the 20th of May last, I had another cow attacked in the same way. I did not allow the disease to linger as long as the former one, but immediately gave her a dose of six eggs, which entirely cured her.

Now, Editors, if you think the above worth a place in the columns of the Country Gentleman, (a paper that every Farmer and Gardener ought to take,) perhaps it may prove beneficial to many an individual who keeps stock; at any rate the remedy will do no harm if does no good.

Readers of the Co. Gent, please try the remedy if you have an occasion, and state the result. Perhaps some one can give what they know to be a *sure* remedy. D. A. JACKSON. *Fairfield, N. Y.*

Special Manures for Fruit Trees.

As a general rule, some kind of compost made of common yard or stable manure, is best and most reliable for fruit trees. Successive layers of turf, or of muck and turf, in connexion with one-third or one-half manure, and a small quantity of ashes, worked together after lying a few weeks, will be found admirable in nearly all cases, if used in proper quantities. But in rare instances, a special application proves of eminent advantage. An example of this sort occurs in the statement of the Shakers at Harvard, Mass., published in the Patent Office Report. The soil is clayey, but the trees grew poorly. They applied all the special manures suggested by experiments or reading, until observing the effect of urine on an unthrifty apple tree, they were induced to try it on pear trees that remained unthrifty in spite of iron, bone-black, ashes, lime, and high manuring. "The result was, the trees shot up a growth as luxuriant as weeds in a hot-bed. Those which had rarely made an inch of growth in a season, grew scions from 18 inches to three feet even, in the summer following the operation." The mode was to apply about two quarts, sprinkled around each tree at a time; to stir the surface of the earth a little, so that it may be well mixed, and prevent the formation of a crust. A cloudy day is recommended. The operation is repeated a month afterwards; and again on those trees not showing a satisfactory result. Caution is needed not to over-stimulate—the quantity must of course vary with the size of the trees, but we are not definitely informed in this respect. The full effect is not confined to the first year. What particular ingredient, or rather what particular *form* of it, contained in this application, not to be found in ordinary manure, produced so extraordinary results, we leave for theorists to determine, if they can do it with certainty.

Black Ants.

In the Co. Gent. of May 31, I inquired for some means to be rid of black ants that were no small anoyance in the flower garden. My ground being of a gravelly soil, it was of no use to try making holes with a crow bar, with any expectation of success. I had previously tried sinking tin and glass cylinders, some with molasses in them, others without. The ants went in and out when they pleased; they ate my bait and left my traps tenantless. I applied tar around the body of shrubs and trees, with the hope of protecting them, but after one day of sun, the ants went over dry shod. Vexed at their repeated depredations, they seemed only to glory in my ill success in getting rid of them.

I at length presented them a *bill* for *collection*, for damages done, that effectually *cropt* their aspirations. I placed my chicken coops in the garden walks, where they were most abundant, and the little bills of miniature hens, collected vast numbers daily. In the short space of one week the city was captured and the home of the ant left desolate. O. C. G. *Ohio.*

Answers to Inquiries.

Root Grafting.—*G. D.* Root grafting and budding (or stock grafting,) have each their advantages. As regards *economy*, root grafting has the superiority, as transplanting into nursery rows, which must be done in any case, is performed when the grafts are set out, while the operations of removing ligatures, heading down, tying up, &c. needed for budded trees are not required for root-grafts. With stock grafting, a part of this labor is obviated; but stock grafting must be done in spring or at the busiest season of the year; while root grafting may be done in winter, and budding at the comparatively leisure period of summer.

Buds, inserted into strong thrifty stocks, will make a longer growth the first season than root-grafts, and hence they are better for some crooked or feeble growing sorts, producing handsomer and straighter trees.

The superiority of budded and stock-grafted trees, has been much contended for by some of our western fruit growers. But we have not yet obtained any decisive proof of this superiority, except in some portions of the north-western states, where a fertile soil causes a rapid growth, and intensely cold winters following, sometimes destroy the trees by freezing and cracking at the point of junction between the root and graft. Some varieties, as Esopus Spitzenburgh, Northern Spy, Rhode Island Greening, and others, which appear to be peculiarly liable to this disaster, are better adapted to this region, if budded or grafted on strong natural stocks, two or three feet above ground.

In all other instances, root grafted trees appear to be quite equal in every respect to any, and are indeed often better. We cannot discover any satisfactory proof of their reputed tardiness in bearing. Out of hundreds of trees of both sorts, which have fruited on our grounds, we cannot perceive any difference in this respect. And of the testimony furnished by western cultivators, there is much adduced on both sides, but nothing preponderating nor conclusive. So much was said however, a few years ago, against root grafting, that many eastern nurserymen adopted the opinion that root grafted trees were quite inferior to others, unless the *whole root* was taken for grafting upon, instead of portions or sections according to the usual practice. By taking the whole or uncut root, it was asserted the same advantage would result as by stock grafting or budding.

We have not been able to discover any sound reason for this opinion. For whether the whole or a part of the root is taken, *new roots* must be thrown out as growth advances,—*the graft rarely throws out any in either case*,—and how one set can differ in any essential character from another, we are unable to decide. Every grafted tree, when removed from the nursery, loses by ordinary management, a very large portion of its roots; but after it is re-established, has its character or hardiness become permanently changed in the least degree, by such previous loss? Does a single *root pruning*, render a tree different in character, four years after all the lopped roots are restored,—this being the usual time that elapses after a root graft is made till the young tree is sold?

We can see no philosophy in any of these objections to root-grafted trees, save the one we have already mentioned; and observation and practice fails to establish them. Accordingly, some of the best cultivators of the present day, cut their roots into sections about three inches long, on which they insert a graft about twice as long, finding a short root and a long graft, by deepening the place of junction below the soil, better than a long root and a short graft, and less liable to fail of growing.

Fruits, &c., near Water.—Living on the shores of Lake Huron, my house within about thirty feet of the water's edge, with a garden between the two, I wish to have an opinion from you, whether or not this close proximity to such an inland sea, is injurious to fruit and garden vegetation.

Col. Sherwood's Sale of Short Horns.

Auburn, June 20, 1855.

L. Tucker, Esq.—A fine assemblage of gentlemen, about two hundred, were present here to-day at Col. Sherwood's sale. Mr. Osborn from Ohio, Mr. Ashton of Galt, C. W., Mr. Cowles and others of Farmington, Ct., Mr. Bishop, New Haven, Messrs. Haines and Treadwell, N. J., L. F. Allen, W. Fuller, S. Thorne, S. T. Taber, D. B. Haight, J. W. Wilkin, S. P. Chapman, A. Stevens, E. M. Bradley, D. D. T. Moore of Rural New Yorker, J. R. Page, J. W. Bacon, Mr. Stevenson, of Wash. Co., and others, were present. A fine collation in the Col.'s spacious barn, was disposed of. At about half past one, Col. James M. Miller from New-York, commenced the sale, announcing the upset prices. The Bulls were first sold, as follows:

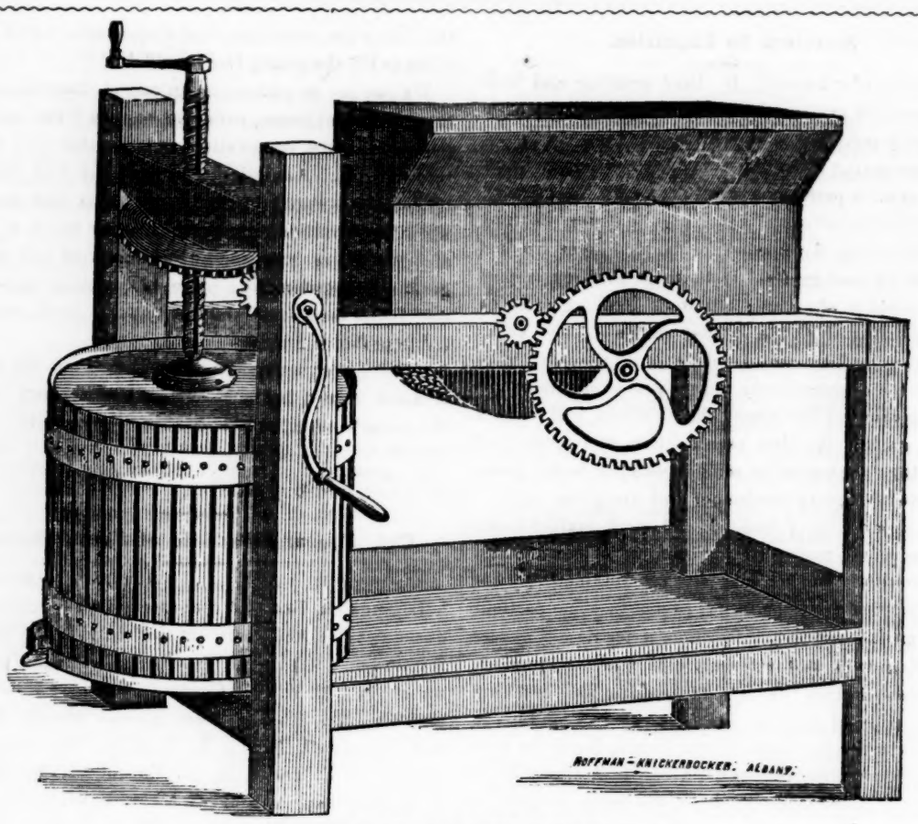
No. 10.	Red Jacket, J. W. Wilkin, Orange Co.,	$500
5.	Pope, Seth R. Payne, Geddes, N. Y.,	415
2.	Lafayette, T. F. Osborn, Erie Co., Ohio,	350
9.	Prince Albert, (calf,) Wm. Ashton, Galt, Ca.,	175
3.	Powhattan, Jno. Taylor, East Bloomfield,	120
4.	Novelty, L. F. Allen, Black Rock,	75
7.	Waterloo, Mr. Bentley, Seneca Falls,	135
8.	Chautauque Chief, Mr. Birdseye, Pompey, On.,	55

The cows sold as follows:

No. 2.	Red Rose 4th, 6 years, imported, Wm. Ashton, Galt, Canada,	$925
	Red Rose 10th, calf of above, 3 weeks old, Wm. Ashton,	350
3.	Red Rose 5th, 4 years, R. T. Haines. N. J.	600
4.	Red Rose 7th, 3 years, Wm. Ashton, Canada,	620
5.	Red Rose 8th, 1 year, T. F. Osborn, Ohio,	250
6.	Red Rose 9th, 11 ms., Thos. Gould, Aurora,	350
7.	Lady Sale 2d, imported, Wm. Ashton, Canada,	610
8.	Lady Sale 4th, 7 years, J. R. Page, Sennett,	400
9.	La Polky 2d, 2 years, J. W. Wilkin,	410
10.	Phantom 2d, 2 years, J. W. Wilkin,	450
11.	Lady Brown, 3 years, T. F. Osborn,	200
12	Style, T. F. Osborn,	220
13.	Lady, 4 years, T. F. Osborn,	310
14.	Flower, 18 mos., T. F. Osborne,	260
1.	Red Rose 2d, imported, 9 years, A. Stevens, Batavia,	300

This is an encouraging sale, especially the cows and heifers, which brought very fair prices. Col. Miller conducted the sale admirably, and every thing went off well. J.

The above sales include eight of the ten males in the Catalogue, at an average of about $228, and fourteen of the fifteen females in the Catalogue, at an average of $417 each.



Emery's Patent Cider Mill.

The above cut represents a new Cider Mill projected by the Messrs. EMERYS of this city, which promises well. As the cut shows, it is a grating cylinder mill, with a geered power press combined—the whole being compact, and afforded at about forty dollars. Advertisement and full description in next No.

Inquiries—Strawberries.

1. Will the "pistillate," or bearing plants, produce "staminate," or barren plants, by their *runners?*

2. Will the pistillate plants bear as fully when set near plants of the "Early Scarlet," as when set near "staminate" plants of their own variety?

3. Is the fruit thus produced, by the pollen of the "Early Scarlet," different in size, shape, or flavor, from that produced by the pollen from staminate plants of their own variety? A. K. *Vernon, Conn.*

1. Runners being nothing more than *rooting branches*, cannot cause any variation in the character of the variety—any more than the branches of an apple or pear tree can vary in character from the rest of the tree.

2. Pistillate plants of any variety, do not have any distinct staminate plants of the *same variety*—on the contrary, it is the fixed nature of one variety to be pistillate, and of another to be staminate or hermaphrodite.

3. As *all* pistillate plants (strictly so) must be fertilized by some other variety which is a staminate, every berry on a pistillate plant must be a *cross*—but the berry thus produced does not exhibit the cross, but only the *plants and fruit obtained from the seed thus produced.*

Inquiries about Soiling.

MESSRS. EDITORS—I noticed the article in your paper from Mr. MORSE, on soiling cattle—a subject about which I have been very anxious to obtain information, but did not know who had made any experiments in this country, sufficient to satisfy themselves in respect to its practicability.

Now the information I wish is this—can a dairy of sixty cows be fed to good advantage, in this way, where the land can all be tilled, and where barn and other buildidgs are convenient?

Will it require an entire extra hand for the feeding? What proportion of land can be saved by this method, and should cows be fed with something of a variety of food to insure good health?

If you will have the goodness to give us an article upon the above subject, (in other words your view of the matter,) I for one should consider myself very much obliged. And further, please ask Mr. MORSE to give his ideas upon the matter at large—in short every thing he can think of bearing upon the subject, as I which to be tolerably well satisfied before I adopt any new theory. H. A. CHAMBERLIN. *Hudson, O.*

LEMON PIE.—Remove the rind of one lemon, cut fine, add one cup of sugar, one-half cup of cream, and one egg.

Trial of Mowers in Westchester County.

The following is the official report of the recent trial of Mowing Machines in Westchester County:

The following machines were entered for trial.

Ketchum's machine, manufactured by Howard & Co. of Buffalo, N. Y.

Russell's machine, manufactured by R. H. Pease, of Albany, N. Y.

Forbush's machine, sold by Griffing & Brothers, N. Y. City.

Manny's mower, with Adriance's improvement, manufactured at Worcester, Mass.

Manny's mower, sold by L. C. Ball of Hoosick Falls, N. Y.

Hallenbeck's machine, manufactured at Albany, N. Y.

Allen's machine of N. Y. City.

Ketchum's machine manufactured by T. and S. Hull of Poughkeepsie, N. Y.

Ketchum's one horse mower, manufactured by Ruggles, Nourse & Mason, Massachusetts, sold by R. L. Allen of N. Y. City.

The trial of the different mowers commenced at a few minutes past 1 o'clock, and after the different machines had each been driven twice across the field by the same driver and team, B. P. Johnson, Esq., Secretary of New York State Agricultural Society, delivered an able address to the multitude, appropriate to the occasion, after which the trial was continued through the afternoon, and concluded on Saturday the 16th.

On the afternoon of Saturday, the 16th inst., the Society of Agriculture and Horticulture of Westchester County was called to order by the President, and the report of the Committee of Judges, after considerable discussion, was adopted as follows:

To the President of the Society of Agriculture and Horticulture of Westchester County:

The Committee appointed to decide upon the merits of the Mowing machines shown at the exhibition held under the auspices of the Society of Agriculture and Horticulture of Westchester County, at the farm of A. F. Dickenson, Esq. of Bedford, on the 15th and 16th of June inst., respectively Report:

That they were very greatly pleased with the performance of every machine exhibited, and can confidently say that they believe any one of them would give satisfaction to the farmers of the country, and when all are so excellent it becomes a matter of considerable difficulty and embarrassment to the Committee to decide which one of them embodies the greatest number of desirable qualities. But as they all possess peculiar excellencies we will specify them under the following heads:

1st: Operation of the machines on fair ground, driven at first by the same driver and team and afterward by the exibitors themselves or under their direction:

On this point your Committee find that the machines of Ketchum, Hallenbeck, Manny, and Allen are of equal excellence.

2d: The lowest and smoothest cut of each machine:

Your Committee are of opinion that upon this point there is no marked difference in the four machines just mentioned.

3d: Trial on rough uncleared bottom:

Your Committee on this point give the preference to Allen's and Russell's machines.

4th: Evenness of grass as left by the machine for curing:

We find that the machines with the iron cutter bar have the preferene in this respect.

5th: Freedom of knives from clogging:

We are of opinion that the machines of Ketchum, Manny, Hallenbeck, and Russell, on account of the finger caps not reaching back to the finger board, are least likely to clog.

6th: Amount of power required to perform a given amount of work:

Your Committee think there is but little difference in this respect between the machines of Hallenbeck, Manny and Allen.

7th: Facilities of transportation from one field to another, and for escaping obstructions in the field:

We believe that Manny's machine has advantages over any other in this respect.

8th: Durability and simplicity of constructions:

We believe Ketchum's and Allen's the most durable and Hallenbeck's the most simply constructed machines exhibited.

9th: Cost of machines:

Manny's, made by Adriance,	$120	Ketchum's, made by Hull,	$120
Manny's, made by Ball,	115	Hallenbeck's,	106
Russell's,	125	Forbush's,	120
Allen's,	120	Ketchum's 1 horse machines,	95
Ketchum's	120		

Your Committee in this report have included under the term of Ketchum's machines, that of Hull and the one-horse Mower, manufactured by Ruggles, Nourse and Mason. And also where Manny's is spoken of, they mean to include the Machine manufactured by Adriance of Worcester, Mass., and by Ball of Hoosick Falls, N. Y.

The machine brought upon the ground by Mr. Griffing, (Forbush's patent,) is not included in this Report, as the proprietors from some cause were not satisfied that it had a fair trial, not being able to have it in proper order.

R. Mott Underhill,
Jeremiah Howe,
Samuel Teed,
Stephen Barnes,
Henry Wood,
} Committee.

Trial of Mowing Machines at Rochester.

The trial of mowing machines under the direction of the Monroe County Ag. Society, took place on the farm of Judge Buel near Rochester, on the 27th ult. We give the following extracts from the report of the committee.

There were eight machines entered for competition. The field was bad for working them, the surface very uneven and stony, and the grass thin and light. The work performed was not a fair test of the value of mowing machines, yet, with some exceptions, the work was satisfactory and proved the great value of this immense labor saving invention.

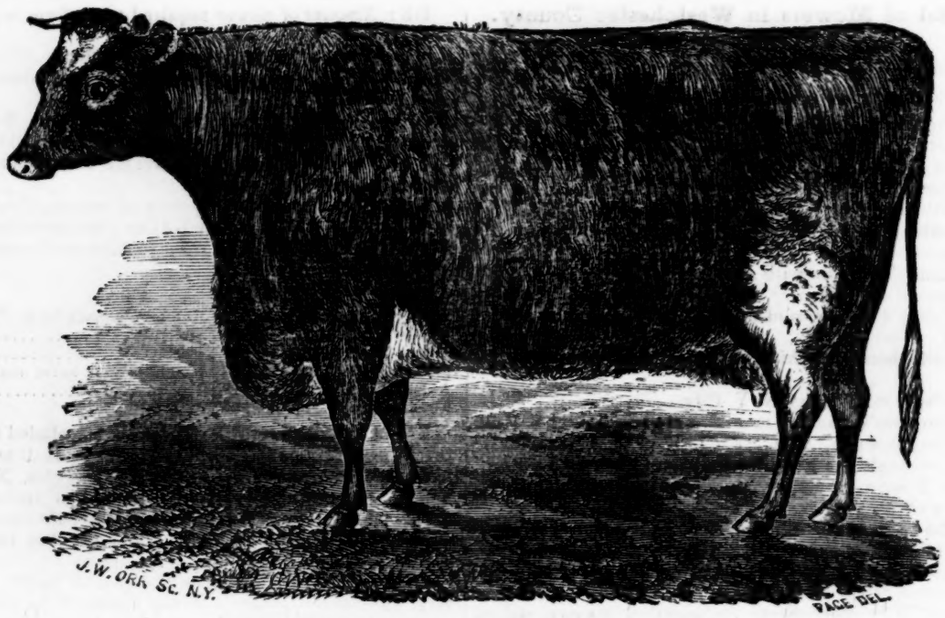
The committee were united in the opinion that the Ketchum machine, and the Manny, with Wood's Improvement, were the best on the ground; but were divided in opinion as to which of these two was the best, but a majority finally decided in favor of the former, believing that that machine cut the closest to the ground, while the latter was the easiest for the team, and for adjustment over uneven and stony surfaces. The side draught was also light, while in the former machine it was quite heavy.

The first premium the committee award to the Ketchum machine, and the second premium to Manny's machine, with Wood's improvement.

The third premium is awarded to Wheeler's machine, of Cayuga Co. This machine cut with shears and performed good work, having an adjustable beam, and so arranged as to have little or no side draught.

Forbush's machine is a combined Reaper and Mower, and cut equally well; did not leave the grass evenly spread.

The other machines upon the ground were most of them so nearly alike in the character of the work done, that any further discrimination or expression of opinion of their respective merits is perhaps uncalled for.



Mr. Becar's Short-Horn Cow Oxford VI.

This cow—imported and owned by NOEL J. BECAR, Esq., of New York—is one of the celebrated Oxford family bred by the late THOMAS BATES of Kirkleavington, and was purchased at the sale of his herd by Earl Ducie. To show the estimation in which this family is held, we may state that she was sold at Earl Ducie's sale for $1,075, while four of her descendants brought $4,880, at the same sale. At the late sale of Mr. TANQUERAY, two cows of this family were sold—Oxford 11th, to Mr. GUNTER, for $2,500, and Oxford 16th, to Messrs. MORRIS & BECAR, for $2,400.

Oxford 6th, was calved Nov. 6, 1854—got by 2d Duke of Northumberland, (3646;) dam, Oxford 2, by Short Tail, (2621;) g. d. Matchem cow by Matchem, (2281;) gr. g. d. by Young Wynyard, (2859.)

Suggestions about Depth of Plowing.

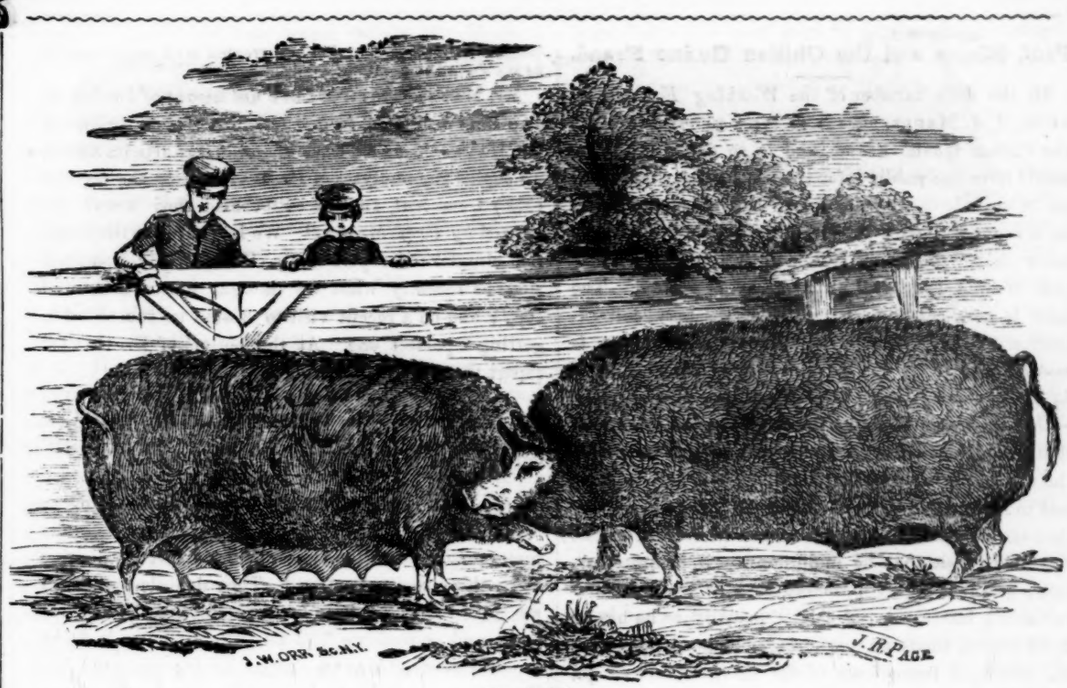
LUTHER TUCKER, Esq.—I have noticed with some interest in the late numbers of the Country Gentleman, several articles in reference to the practical advantages of deep and shallow plowing. Though my occupation in life has never been that of an agriculturist, I have always felt an interest in, and respect for those who are, and hope therefore that you and they will not think me impertinent in offering a few suggestions that have occurred to me on the subject.

In some of the limestone districts of our country, I have observed that the tops and sides of sharp hills and ridges, are equally productive with the valleys between them—whereas in gravelly and sandy districts, the tops and sides of the ridges and hills are quite barren, and the valleys between them very fruitful. My inference from these facts is, that in the deep limestone soils, the natural wash of the hills removes the exhausted soil and brings within the reach of plants new earth of greater fertility, about as fast as is required. On the contrary, in gravelly and sandy soils, there is little or no productiveness except in the top soil, which is probably the product of ages of vegetable decomposition, and when once removed leaves the land almost entirely barren.

From these facts, my reasoning would lead me to the conclusion, that, in deep limestone soils, it will be found to be advantageous to plow somewhat deeper each succeeding rotation of crops; but that in sandy or gravelly soils, it will not do to go below the productive surface, unless artificial means are used to make the new surface as fruitful as the one turned under by the plow. The same observation may be applied to soils having unproductive clay below the top soil. If no artificial means are used to make the clay fruitful. it will I think do more harm than good to bring it to the surface.

I suppose there will be but one opinion among agriculturists, of the superior advantages of the deep soils to resist the evil effects of great drouth; and the necessity of them for the cultivation of root crops. Whether he can make it *profitable*, to make thin gravelly or clayey soils productive by deep plowing and high manuring, is a matter that depends upon so many contingences, that each one must determine it for himself; but unless he can do so, I doubt much whether he will ever make himself rich by plowing deeply on thin gravelly or clayey land. S. E. F., *New Haven*.

TO PREVENT BOTS IN HORSES.—A person of much experience in veterinary science is never troubled with this disease in his horses. His simple practice during the fall months is, to keep a greasy cloth in the stable, and once a week rub with it such parts of the animal as may have been attacked by the nit-fly. Grease destroys and prevents the eggs from hatching.



Berkshires,

The property of L. G. Morris, Fordham, N. Y. "Sir Robert," winner of the 1st Prize at the N. Y. State Fair in 1854. "Lady Berk" was on exhibition with 10 pigs, and highly commended.

Summer Food for Store Hogs.

Messrs. Editors—I wish to raise a number of hogs the coming season, and how can I do it in the absence of milk and with nothing to feed, but the slops of the cook room. Will corn, cut up green, keep them in a thriving condition till fall? Will you, or some of your intelligent correspondents give me some information on this subject? A Subscriber.

It will not be advisable to keep too many hogs under such circumstances. Hogs, doubtless, can live on grass, green corn, green peas, &c., but they must have a more *concentrated* food to thrive well. A bulky food is not good for hogs; even bran, on this account, proves to be ill adapted to fatten them. Nevertheless, you may keep a number of hogs in a growing condition through the summer by allowing them a good run of clover, and the slop of the house, and giving them a few green peas, green corn, windfall apples, &c. We shall be glad to hear from our correspondents on this subject.

The Massachusetts Society for Promoting Agriculture, have offered a premium of $600 for the best Mower. "The possessor of the Mowing Machine which shall cut, during the present season, with the greatest economy and to the best advantage, not less than fifty acres of grass, within the State, the Machine to be worked by horse or ox power, shall be entitled to the sum of $600"—all other things being equal. The Board also announce a premium of $1,000 to the maker and exhibitor of the best Mowing Machine in 1856. A general trial of the competing Machines will be had—of which due notice, with the terms of trial will be given.

Stone Pipe for Water.

Editors of Country Gent.—In your paper of June 14, page 376, H. M. inquires if tile inclosed in cement, will bear a small pressure of water. If I knew Mr. H. M.'s address, I would write him instead of bothering you. If you will give me his address, I think I can do him and his neighbors some good. Enclosed I send you a card, by which you will see that we manufacture an article of stone pipe, which is the best conductor for water, gas, sewerage, &c., in existence. Water may be conducted through our pipe, ten, twenty or one hundred miles, and discharge itself just as pure as when it leaves the spring. The pipe is made of potter's clay, and burned, so that it is as hard as the hardest kind of *hard-heads*, and glazed so that it is impervious to water. It is made in joints about 21 inches in length, with socket at one end and tenon on the other. A little good water-lime cement, put into the socket, and tenon set into it, will make a joint as tight as can possibly be made in iron pipe with lead, and the longer it lies in the ground, the harder it becomes. It is capable of sustaining a pressure of at least 500 pounds to an inch, and has been *subjected* to a test of a much greater pressure. It is next to impossible to get a head that will burst it.

I send you inclosed a small bit broken from an inch and a quarter pipe, that you may see what it is like. F. Adams. *Akron, O., June* 26, 1855.

The piece sent us is exceedingly hard, and much resembles stone. We have no doubt it would sustain a great pressure, and prove in other respects an admirable conduit.

Prof. Mapes and the Chilian Guano Fraud.

In the July number of the *Working Farmer*, its editor, J. J. MAPES, essays to reply to our article on the Chilian Guano Fraud, and in so doing, while he would have the public infer that he has not "an interest in the sale of this fertilizer," lets it leak out that he is connected with it, for otherwise how could he know that "the whole statement is a mis-representation, with a false and unfair array of facts?" The time is now come, perhaps, when we may call attention to the "*facts*," that *the Chilian guano is manufactured on the farm of Prof.* MAPES, *and in his improved superphosphate of lime manufactory* —that the men who make the one make the other, and that the teams of Mr. MAPES are engaged in carting the raw materials and the manufactured article from and to Newark. Such are the facts. We will not say that the Professor has any "interest in the *sale* of this fertilizer," but that he manufactures it, is quite certain; and it is highly probable that he feels a manufacturer's interest in its sale, especially as he has on hand several thousand tons of sugar-house scum, one of the principal ingredients of the mixture, and which, were the sales of the Chilian guano and of the *Nitrogenized* superphosphate of lime to cease, it might puzzle even the Professor to turn to any profitable account. While, therefore, we will not assert that Mr. MAPES is or is not *directly* interested in the sale of this fraudulent guano, we feel quite confident that, as its manufacturer, he is indirectly interested as much as Mr. SHELTON, the actual vender of the article. One is interested in getting rid of his Mexican guano, the other in selling his worthless sugar-house scum at $35 to $40 per ton.

That we may do Mr. MAPES full justice we copy his entire article, as follows:

THE COUNTRY GENTLEMAN.—This paper, after having had the falsehoods of its editor, Mr. Harris, contradicted by the affidavits of many individuals, again essays to attack us for having endorsed the assertions of Dr. A. A. Hayes of Massachusetts, in connection with a quality of the manure sold as Chilian Guano, and endeavoring insidiously and underhandedly, as usual, to impute to us an interest in the sale of this fertilizer. We are not aware of having at any time been called upon to endorse the opinions of Dr. Hayes, but we shall at all times be ready to give it as our opinion, that he may be classed amongst our ablest chemists, and entirely beyond the reach of Mr. Harris. We may have in some way spoken of Dr. Hayes, and if so, it has always been favorable to his ability, with which we are well acquainted.

The whole statement in the *Country Gentleman*, which has been so generally copied by that portion of the agricultural press who use the slanders of others in preference to thoughts of their own, is a misrepresentation, with a false and unfair array of facts, and the deductions drawn by them from the analysis which they publish as connected with the article referred to, are as wanting in correctness as their assumption of fact.

When Mr. Harris will learn to know the true value of such organic matter as is of animal origin, and the difference in value between carbonate of lime, resulting from the decomposition of the bones of a bird, as compared with that known as effete or slacked lime, he will then be capable of such a class of comment as he has attempted to give in relation to the opinions of Dr. Hayes and others; and whenever he shall satisfactorily answer the affidavits of 18 individuals published by us in March last, at p. 21 of the present volume, in which 14 falsehoods, previously published by Mr. Harris, are flatly contradicted, we may then decide to answer his attacks in detail—but until he establishes his character as a gentleman, instead of passing by these affidavits in silence, he will not be able to use our paper as an advertisement for his lucubrations by seeing that they are treated with such courtesy as we award to gentlemen only.

Mr. MAPES says: "*we are not aware of having at any time been called upon to endorse the opinions of* Dr. HAYES." As we have in our former articles stated, we copied the analyses of Dr. HAYES from the *Oxford* (Me.) *Democrat*, and the editor said they were "*endorsed by Prof.* MAPES." We had not seen the original circular or report of Dr. HAYES. Mr. SHELTON sent us recently what we thought was a mutilated copy; and on a recent visit to Boston we succeeded in getting a perfect one. At the bottom of Dr. HAYES' report there is the following:

NEWARK, N. J., Feb. 23, 1855.

"I have examined the reports of Dr. HAYES on Chilian guano, as also the guano referred to, and fully concur in his favorable opinions of its merits.

"J. J. MAPES,
Professor of Agricultural Chemistry."

Mr. SHELTON *had neatly cut off this part from the copy sent us.* Did the two worthies expect to deceive us by this concerted action? They doubtless thought we should not be able to get a perfect copy of the report—and indeed we had no little difficulty in doing so—and that if MAPES denied having endorsed Dr. HAYES' report in his paper, and the endorsement was cut off the circular sent us, we should inquire no farther, and conclude that the *Oxford Democrat* had made a mistake. Had it not been for this *concerted* denial of the endorsement, we might have charitably concluded that Prof. MAPES had forgotten that he ever wrote it. We can see no way for MAPES to escape conviction of *deliberate falsehood*, except to prove that Mr. SHELTON *forged the endorsement.* Men engaged in fraudulent trade will generally go as far as the law will let them, but we cannot believe that Mr. SHELTON would be guilty of such an act. His reputation in Boston is that of an honorable and respectable man. And we would again urge him to break with his associate MAPES, and make a full confession of the whole transaction. He may possibly in this way save himself from the obloquy which cannot fail to rest on all connected with what we believe to be the *first* systematic attempt at adulterating or manufacturing guano, in this country.

So much for the first point of Mr. MAPES' defence. The second is simply an assertion that our analyses are erroneous and our statements false, but no evidence is adduced to sustain the charge. The third point refers to the Professor's new doctrine of "*progressive ultimates*," got up we suppose for this special purpose. It is absurdly ridiculous, and altogether beneath notice, but even this theory will not save the Professor, for the "organic matter" of the Chilian guano is *not* "of animal origin." *It is sugar-house scum.* The carbonate of lime, too, does not result from the "decomposition of the bones of a bird." It consists principally of fine pieces of coral, and is worth no more than so much "effete or slaked lime." In fact it is not worth as much as "slaked lime," for we beg leave to inform the Professor that "slaked lime" is a *hydrate* and not a *carbonate* of lime.

In regard to the "affidavits of 18 individuals pub-

lished in March last," we would inform Mr. Mapes that soon after they appeared we wrote a reply to them, but, as this Chilian guano fraud came under our notice a few days afterwards, it was thought best to delay its publication. It lies in our drawer and may yet some-day see the light. It exhibits Mr. MAPES' character in no enviable light. It is easy to draw up a statement so worded that, while essentially false, 18 of the lowest and most ignorant Dutch and Irish men—many of whom cannot speak our language—could be persuaded to believe true, and to make affidavit accordingly. Meeting, however, a short time after the publication of this affidavit, with one of the most intelligent men from the factory, we asked him how it was that he could swear to such and such things. He replied that he "*never did.*" That there were several things in the statement read over to him which he could not swear to, and that he had them altered, but that when the affidavit came out (it was not published till nine months after it was taken) he was surprised to find that these erasures were left in, and indeed he thought there were several additional statements which he did not and could not swear to. We might easily refute most of the statements of this affidavit, but there is nothing to be gained by it except a vindication of our veracity, and we leave that to time and a discerning public.

Whatever Mr. MAPES has laid and can lay to our charge, we will endeavor to bear; but we would just remind him that even should he succeed in criminating us, it would not clear himself. The public will expect from him some satisfactory explanation of his connection with this fraud in guano. They will be anxious to see how he can reconcile with truth his *endorsement* of a report stating a guano to "come from the coast of Chili," which he knew to be manufactured in his own factory, on his own farm at Newark, and also how he came to deliberately deny having made this endorsement. We pause for a reply.

Making Cheese from a Few Cows.

Except in the dairy districts, how seldom do we meet with good cheese on a farmer's table; how often do we meet with none at all. And yet every farmer keeps a few cows, sufficient at least to supply the family, with butter through the year, and there is no reason why every one who keeps two or three cows should not make *good* cheese enough for his own use. More labor indeed, is required to make a pound of cheese from a small dairy than from a large one, but this is no excuse for not making it, since the same is true, to a certain extent at least, in regard to butter.

Some of our readers who make an hundred pound cheese every morning, will be inclined to smile at the following directions; but nevertheless, we can assure them that we have eaten the best of cheese made in this way. There are probably many better methods, and if our readers know of any we should be thankful to hear from them.

The difference between making cheese from a small and from a large dairy consists principally in this. In a large dairy the curd is made into a cheese every day, while in the small dairy the curd—obtained precisely as in the large dairy—is slightly pressed and laid by in a cool place till a sufficient quantity is obtained for making a cheese as large as desired.

The night's milk should be kept as cool as possible, and the next morning placed in a tub, together with the morning's milk; and the whole, by adding a portion of heated milk, raised to about 90° Fahr. The rennet is then added, the milk well stirred, and afterwards let alone till the curd is well come. The time this occupies varies from fifteen minutes to two hours, according to the amount of rennet, temperature, &c.—the warmer it is put together, and the more rennet there is added, the quicker will the cheese come. As a general rule the longer it is in coming, the tenderer and sweeter will be the curd. We should seldom desire it to come sooner than 40 minutes after the rennet is added.

When the curd is come, it is broken up quite fine either by hand, or by a curd breaker, which cuts it into very small pieces. After this it is allowed to stand and settle. Some persons at this stage raise the temperature of the whey and curd up to 95° or 100°. This is called "scalding." The practice has its advantages, and disadvantages. If the milk is warm enough when the rennet is added, it may be dispensed with; if too cool, it may be required. If it is desired to sell the cheese when a month or six weeks old, high scalding is indispensable, but in making good cheese for home use, we should scald very little if at all.

The curd is easily separated from the whey by throwing the whole into a sieve or on to a cheese cloth. The curd is then placed in a strong cloth, and well pressed to remove as much of the whey as possible. This is very important. It is then placed in a cool place, and the operation repeated daily,—or every other day, if the milk will keep sweet, as it will in a cool cellar in the fall.

When sufficient curd is obtained in this way to make a cheese of the desired size, it is all mixed together, broken quite fine, and salted. It must then be pressed for a few hours; a clean dry cloth put round it, inverted and pressed again. At first it should not have too heavy a pressure put on it, but it cannot be pressed too dry. It should have dry cloths put round it and kept under the press till it does not wet them. Many will object to so much pressure, but we speak from experience and with much confidence on this point. Less scalding, and more pressure would, in our opinion, add greatly to the *real* value, and cheese-like flavor; though perhaps not to the buttery appearance and *saleable* qualities of most American cheeses.

When the cheese is taken from the press it should have a little salt put on it, and be kept in the dairy, or other cool moist place for a few days. It may then be taken to a dry room, where for the first week or two it must be turned every day, or the side next the floor will mould. The room should be well ventilated and nearly dark.

Lightning Rods.

MESSRS. EDITORS—I have just finished erecting a lightning rod according to the directions in your "Rural Register," and it is a great wonder to almost every one that sees it. I put it upon our barn, which is 50 feet long, and the rod projects above the barn 13 feet. The part above the barn is composed of two bars of iron ⅜ths of an inch square, twisted together and sharpened at the top, and both welded together at the bottom, and a screw cut on them, to fasten them to the next rod. The rest of the rod is composed of round bars of iron, half an inch in diameter, and screwed together. I dug a hole in the ground four feet deep, for the bottom of the rod, and threw in about a bushel of charcoal, and put in the rod and filled it again. The rod goes through painted wooden supports, six inches from the building. And now if the rod does good service, I can say that taking your paper has saved us at least four dollars, for it would have cost us $4 more to have hired it erected by the rod peddlers that travel around this country.

If the lightning strikes it, and runs through the wooden supports into the building, the neighbors will be ready to exclaim, "It is just what I expected." One man came along when I was at work at it, and told me he expected the barn would be struck and burnt in a few weeks. If the barn burns, I will be apt to let you know it. J. CASE. *Spencerville, Ind.*

Unless the soil is unusually and *permanently* moist, we think four feet hardly deep enough, and would still recommend our correspondent to dig six or seven feet deep, bend up the bottom of the rod into a small hook or loop, on which to hang two or three short rods or bars running down two or three feet further, and spreading from each other.

As for the electric fluid passing through the dry wooden supports into the building and firing it, when there is a good communication to moist earth, the thing is perfectly preposterous, and the slightest fears need not be entertained on this point. The heaviest explosion we ever knew, and which *melted into a ball* the tip of the rod which it struck, passed down through such supports into the earth, without the slightest trace of any diversion from its course. EDS.

Best Six Apples.

I would request you to give a list through The Cultivator, of the best six varieties of summer, autumn, and winter apples, to supply the market; uniform and fair productiveness not to be overlooked. I mean best adapted to this section of country, viz., western Pennsylvania. JOHN PORTER. *Pittsburgh, Pa.*

We would recommend the following varieties—*some* of which *local* experience may change to others.

Summer. Early Harvest and Sweet Bough—or if sweet apple is not desired, substitute Summer Queen.

Autumn. Autumn Strawberry and Gravenstein. The Fall Pippin is an excellent sort, but not productive; the Rambo very productive, but not showy enough for market.

Winter. Rhode Island Greening and Baldwin. The latter, although extremely productive, is poor in some localities, and might be substituted by Esopus Spitzenburgh, exceedingly high flavored, but a moderate bearer; or by Roxbury Russet, a great bearer, but of inferior quality.

Age of Trees for Bearing.

Please inform me through the columns of your valuable periodical, "The Cultivator," at what age from the graft or bud, apple, peach, pear, plum, cherry, apricot, nectarine, quince and chestnut trees, commence bearing fruit, under good cultivation, and other circumstances being favorable. I have reference to both standard and dwarf trees. P. A. *Cynthiana, Ky.*

There are many controlling influences, that cause a great variation in the time of bearing. Trees under the best cultivation, will, as a general rule, begin bearing from two to six years after being set out, if standards; and in one half to two thirds of that time, if dwarfs. Badly managed, they might be three times as long, before giving crops; and if totally neglected, especially if they should die, the owner need not trouble himself to look for any crop at all.

But there are other modifying influences besides these. Some *varieties* bear fruit much sooner than others. The Julienne pear, for instance, even if on pear roots, will often bear when only four or five feet high, and it is not unusual to see whole rows of young trees in the nursery, loaded with pears. It is rare for the Bartlett, with good treatment, to continue more than two or three years from setting out, without producing some fruit. On the other hand, the Tyson and some others, may be ten or twelve years without a pear.

There is not quite so much difference in the different sorts of the apple—but still, some, for example the Dyer, will bear in one fourth the time required for the Northern Spy, and a few others.

There is still less variations in peaches,—most varieties coming into bearing in two or three years after transplanting, with fair cultivation. A few years since we set out a row of twenty different sorts, the trees at the time being two years from the bud. They received clean cultivation, no kind of crop being allowed to grow beneath them. The third summer, all or nearly all bore; and the greatest bearer among them furnished three pecks of fine ruddy peaches. Others in the same neighborhood, set out at the same time, but in grass ground, and totally neglected, lingered about an equal period, and then died.

Again,—in the fertile soils and under the warm suns of the southern and western states, fruit trees often bear in about half the time the same sorts produce crops at the north. In other instances, too much fertility prevents the formation of fruit until the vigor of the tree is checked.

All these influences operate in producing exceedingly varying periods of time; and experience alone, in connection with a knowledge of these, will enable our correspondent to judge in the matter.

Cherries, apricots, and plums, bear in about the same time as peaches. Quinces being of slower growth, require a longer period. We do not know precisely the age for chestnuts, but it is usually still longer.

On the Agricultural Value of Gypsum.

BY SAMUEL W. JOHNSON.

No. II.—Results of Experience—Its Supposed Exhaustive Effect.

Influence of the soil on the action of plaster. The character of the soil must necessarily greatly affect the operation of this fertilizer.

A soil already rich in sulphate of lime, of course cannot be greatly benefited by addition of more.

A poor, light or exhausted soil, deficient in mineral plant-food, as phosphoric acid, potash, &c., cannot be expected to become fertile by treatment with plaster, for this substance cannot supply those matters which are wanting, and without which no plant can flourish.

Cold, wet, heavy, and impenetrable soils, are usually almost unaffected by plaster; sometimes its use has been apparently disadvantageous on them.

Porous soils, either sandy or loamy, which readily dry after rains, and which are well dunged, experience the most benefit from plastering.

Excess of moisture, and *poverty of the soil*, are the chief hindrances to the action of gypsum.

On lime and chalk soils, it is no less effectual than on others.

In general it may be stated that unless the other conditions of good culture be observed and provided for, the farmer who uses gypsum will "lose his money and his trouble."

It is undoubtedly a fact that the circumstances, which insure the best effect from gypsum, are nearly identical with those which are otherwise most favorable to vegetable growth.

Effect of Climate and Weather. Countries like South England, the greater part of France, Bohemia, &c., where, on account of the vicinity of the sea, or the existence of forest and hill ranges, the climate is uniform, and where, during the growing-season, the rain-falls are frequent but moderate,—where, in other words, it is neither too wet nor too dry, there gypsum stands in greatest favor. It is doubtless the fact that the frequent wetting of the soil assists the action of plaster by bringing it into solution; yet the weather probably exerts more influence on the plant itself, directly, than on the action of the plaster with which it is manured. Climate modifies the conditions of vegetable growth to a wonderful degree. In the more northern part of our temperate zone, a stiff clay soil is very intractable and unproductive, while in Egypt, where it never rains, a similar soil yields the most profitable returns. We should, therefore, expect to hear from a Canadian farmer that plaster has little good effect on clay soils, while in the warmer south, they might be benefited most of all.

Quantity and time of application. In England and Germany, it has been found that 250 to 400 lbs. per acre, is the best quantity to apply. The advantage of larger applications is usually very inconsiderable.

Gypsum is usually applied in the spring, and in case of clover, &c., when the vegetation is 3 to 4 inches high. In the United States it is applied to corn and potatoes in the hill at planting, but more frequently when they have attained the above mentioned height.

Many farmers are of opinion that plaster acts best when it remains adhering to the leaves for some time. Accordingly, it is highly recommended to sow plaster just before or after a gentle rain, or when the dew is on the plants. Warm, moist weather ensures the full action of plaster. If the weather be cold at the time of sowing, its effect is stated to be very insignificant. This is, however, doubtful. In Germany the 1st of May is generally considered the best season for plastering, and experiments made in Saxony, especially to ascertain the most favorable time, have confirmed the opinion. Not a few, however, deem it indifferent whether the plaster adhere to the plant, or fall directly upon the soil.

DOMBASLE employed the following method: He plastered his meadows at the time of seeding, and repeated the dose in the following spring. Clover treated in this way, grew very luxuriantly, sometimes even to the detriment of the grain with which it was sown. It is reported that clover thus plastered is less injured by frosts, and is ready to cut a week or two earlier than when gypsum is not applied.

Duration of effect. According to GIRARDIN, "experience has established that plastering (of clover?) should not be repeated oftener than once in 5 or 6 years, if any action is to be expected from it." Other writers agree in admitting that its benefit continues nearly or quite as long. Its effect has often been observed to be greater the second than the first year after application, and is often unabated the third season. The duration of its action is doubtless somewhat dependant on the quantity applied, and must be materially influenced by the weather in the second, third, and following seasons, as well as in the first.

I have thus given a condensed statement of the results and opinions of practical men relative to the use of plaster. The conclusions adopted are those which are sustained by the majority of facts. It is apparent what uncertainty prevails in our knowledge of this subject. It remains by means of new and more careful observations, and by more rigid experiments, to determine the actual value of these statements and to acquire additional information.

Hundreds of single results that have been published are of no value whatever in deducing general rules, because the vagueness of many agricultural terms, makes it impossible to know what degree of truth a statement possesses. A soil is a very complex thing, and may include many conditions which effect the action of a fertilizer, yet in a report of a trial of plaster we find nothing written of the soil except the prefix clayey, or sandy, or loamy. The important characteristics upon which the whole result of the experiment hinges may never be recognized nor mentioned, and hence while the fact is true that the crop was benefitted or not, we have no logical ground to assume that any of the mentioned causes or circumstances, had any thing to do with the effect, more than a number of other unnoticed causes which must have been present and operative.

Admitting that much remains to be learned, still it is evident that for practical purposes so much may be accepted, viz.

1st. Leguminous plants are especially benefited by plaster, while—

2d. All other plants of large foliage whose agricultural value does not consist in the production of seed, are usually aided by it in growth, upon—

3d. Soils not already containing sulphate of lime, but—

4th. In which all other forms of mineral plant-food are present in available form, and in sufficient quantity; which are in practical language, *well dunged*, if not rich without manure, and which, further,

5th. Present no physical obstacles to vegetable growth—which are dry, sufficiently porous, and well tilled when—

6th. The climate and weather* are favorable to vegetation when the temperature is mild and rains are frequent but moderate.

A couple more illustrations may be useful. In the North Eastern part of Bavaria where the *climate is good*, there are considerable tracts, where clover does not flourish and where plaster does not usually assist

* *Climate* is the weather of the year and century. *Weather* is the climate of the season and day.

its growth. The popular opinion is that its influence is detrimental rather than useful, that it brings in sorsel, which extirpates the clover. The fact is that the *soils of this region are quite thin and poor,* and are not made rich by mere additions of sulphate of lime. Why sorrel comes in is not clear.

In upper Lusatia in Saxony, *soil and climate unite* to produce conditions which hinder the action of gypsum. There the soil is either a gravelly sand, or a heavy ferruginous clay; loamy soils scarcely occur. The climate is irregular, in summer the weather is dry and from the prevalence of strong, raw winds, moderate showers are not frequent, but the rain falls mostly in sudden and violent storms. Here clover grows but poorly, and it could not be expected that plaster would help it!

Does plaster exhaust the soil? This frequently asked question is easily answered, and by the word *no.* A soil is never exhausted by what is added to it. But always by what is removed. But a little explanation is needed, for although plaster cannot exhaust the soil, plastering usually is *followed* by exhaustion, and for the simple reason that by its use nothing but sulphate of lime (ammonia indirectly?) is added, while phosphoric acid, potash, silica, &c., are removed. A purse soon gets empty if eagles are constantly taken out, though cents be now and then put in. The *crops* which plaster enables the farmer to remove from the soil, exhaust it. Suppose that a few bushels of plaster raise the yield of clover upon a field 10 per ct; then 10 per ct. more of phosphoric acid, potash, &c. pass from the soil into the crop, than would have passed had no plaster been used. If plaster only be added, then the field will be exhausted in one-tenth less time than if nothing at all had been applied. In both cases the total amount of vegetation produced until exhaustion supervenes, will be the same, and the amount of exhaustion the same. In the one instance the final result might be reached in 10 years; in the other in 9 years. The difference is merely one of time.*

If benefit is to be derived from the use of plaster, it must be accompanied with other manure, or its action however good at first, will ultimately cease. Manuring a poor soil with nothing but plaster, is attempting to sustain vegetation on plaster alone; and this, like feeding children on little else than arrow-root, is a stupendous folly. It is trying to build brick houses without brick. Plants cannot be made of sulphate of lime, any more than men can be made out of starch. "Out of nothing, nothing comes."

The healthy plant is the result of the co-operation of many causes, the coincidence of many conditions. One cause, one condition can only act favorably when all the others but this are present. There is, there can be, no agricultural panacea.

In the next article will be discussed the theory of the action of plaster—the reasons why it benefits crops, and the method of its operation. *Munich, March* '55.

Planting Corn—A Corn Marker.

MESSRS. EDITORS—A correspondent of yours, writing from Setauket, L. I., describes the process of plowing the ground and planting corn, in his vicinity, and asks to be informed of a better way. I will, therefore, tell how *some* people plant corn here with us. First, the ground should be deeply plowed, and in such a way that the furrows all shut down flat, and do not ride one another; then follow with a harrow, or two-horse cultivator, until the ground is perfectly mellow. The next step is to mark it. For this purpose take an ordinary fence board, 6 inches wide by 16 feet long, and on one side of it nail pieces of two inch stuff, 4 inches wide and 6 inches long, (rounded at one end like a sled runner,) crosswise the board, at such distances as is wanted to plant the corn. Then about 4 feet from each end of the board, bore holes, into which short pieces of rope may be put, to fasten to the horse's traces; then again bore two holes, two or three feet apart, in the centre of the board, in a slanting manner, into which handles should be inserted, by which to guide the machine. Then with a boy on the horse, or with the lines around your back, proceed to mark the ground crosswise from what it was plowed; and to do this well, let the harrow, the last time over, go the same way the ground was plowed, otherwise the harrow marks might be taken for those of the marker.

Thus, with a marker 16 feet long, you could mark 15 acres of ground in half a day. After the ground is marked, if you are ready to plant, take a horse and ordinary sized plow, and plow out the furrows, (as deep as may be without throwing up the sod,) crosswise the marks, which can be done with great accuracy after a little practice, and let the men follow with the manure, dropping it in the intersections. This will, I think, for ease and accuracy, suit your correspondent, and with moderate labor, he would probably plant the *whole* of a 19 acre lot before any of it was up, especially if the season is as cold as the present. H. *Bridghampton, L. I.*

Manure Leach for Gardens.

Last summer, during the drouth, I used for watering my kitchen garden, an arrangement which worked so well that I am tempted to add it to your list of similar fixtures.

First a hogshead (an old sugar cask,) was reared upon a platform exactly as for a leach, at a place convenient for pouring upon it the warm washing suds and other water; and below it, to catch the liquid, was set a tub of several pails capacity. The cask was filled with rich well rotted manure. The arrangement thus completed, all the suds, warm from the washing, was poured upon the manure, which on its way through the leach, carried with it the soluble aliment for the plants. This liquid was dipped out and distributed as necessity required, and the result was a good garden on a poor piece of land, notwithstanding the drouth.

To absorb all offensive odors and volatile gases, the manure in the leach was covered with gypsum. Lime should not be used. A small garden engine would be the proper mode of distributing it. GURDON EVANS.

INCOMBUSTIBLE WASH FOR THE ROOFS AND WALLS OF BUILDINGS.—Take of common water a quantity proportionate to the surface to be protected, and stir in potash as long as it will dissolve. When the water is perfectly saturated, stir in first, a quantity of pure clay to render the mass as thick as cream. When the ingredients are well mixed, the preparation is to be applied to the wood, and will be found efficient in protecting it from the action of both fire and rain. It is asserted by those who have tested its value, that wood work exposed to intense heat, if coated with this cement, may be charred or carbonated, but cannot be made to burn.

When desirable, a very agreeable color may be imparted to the wash by adding a small quantity of red or yellow ochre.

*The supposed results are of course not assumed to be exact, but serve the illustration.

Hints on Harvesting.

It has been recommended to cut wheat three weeks or a month before it is fully ripe, and we have known those who have done so, but who will never do it again, the shrinkage and loss being very considerable. On the other hand, there can be no doubt that after a certain point, a portion of the starch of the grain is converted into woody fibre, and the flouring qualities materially impaired. The object of the judicious farmer will be to avoid the two extremes. We do not know that modern science has given us any better rule for determining the proper time to cut wheat than that which an old practical English farmer once gave us, and which he probably obtained from the agricultural traditions of his sage and observing ancestors. "Wheat," said he, "will do to cut when you can squeeze a kernel between the first joint of the thumb and fore finger, *and there comes out no sap.*" In other words, as soon as circulation in the grain has ceased, it can derive no more nutriment from the straw, and the sooner it is cut the better, in order to prevent the change of starch into woody fibre or bran. Reaping machines have done away with the necessity of commencing to cut too early in order to get through before the grain becomes so ripe as to shed, and every one can cut just at the proper time.

This year, owing to abundant rains and cool weather, there will be an unusual quantity of straw, which will require more than ordinary time to season before it is in proper condition to stack. It is said that an inch of straw near the ground is worth as much as three inches immediately below the ear, and we have frequently been surprised that, in the older states, where straw is scarce and valuable, the stubbles are left so high. In the west this year, however, there will be some excuse for cutting as little straw, grass, &c. with the grain as possible, since less time is required to cure it, and the labor of carting, stacking, threshing, &c., is much less. Nevertheless, every one should make it a special point to keep all the stock he can keep well in the winter, and to do this he must carefully harvest all the straw, clover, grass, &c., of his grain crops.

A gentleman who has spent some time in Europe, said to us lately, "There is one thing in which the English *do* beat us, and no mistake, and that is in stacking their grain. They seldom put any grain in barns, and every farm has an enclosed portion of land near the barn, called the stack-yard. In this they have strong wooden frames, placed two and a half to three feet above the ground, and resting on stone pillars, and capped so that mice and rats cannot get into the wheat stacks which are made upon these frames. They seldom stack any wheat on the ground, but when they do, it is astonishing what a difference there is at threshing time between it and the same kind of wheat placed on the frames, so that the air can permeate through it." All this is true, and, while we are happily under no necessity of using so much caution against dampness in stacking grain as the British farmer, yet we should do well to avoid the too common practice of stacking grain, hay, corn-stalks, &c., on the bare ground. A few rails and some cord-wood make excellent stack-bottoms, when covered with a little straw; indeed they may be so placed as to make a temporary frame through which the air may circulate between the stack and the ground.

Barley is quite ripe enough to cut when the reddish color on the ear has disappeared. When fully ripe the ear bends down to the straw, and is very apt to fall off in mowing, turning, &c, occasioning much loss; while if cut too early it shrinks considerably, and is not so good for malting purposes. English writers, while fully admitting that in allowing barley to get fully ripe there is much loss, advocate the practice on the ground that it is next to impossible in any other way to get that *evenness* so necessary for malting purposes.

With a heavy crop of straw, we prefer always to bind up the barley into sheaves. The first expense is more, but there is less loss, and far less labor in carting, stacking and threshing. With light crops, if the barley was rolled—as it always should be—and the ground is smooth, it is doubtless the most economical mode to mow it, and stack it loose. It will need turning in the swath, and with a light crop this may be done with a hand-rake, and the loose barley between the swaths raked together at the same time. Barley needs considerable time in the field before the grain and straw is sufficiently dry and hard to stack. Barley straw, when not too ripe, we consider quite nutritious, but it must not be carried too soon, or, besides the injury to the grain, it will heat in the stack and be spoiled. Morton's Cyclopedia of Agriculture, just published, says: "Barley requires from ten days to a fortnight of good weather to bring it into proper condition for being stacked, and in damp, hazy weather, considerably longer." Fortunately, such a rule, though applicable to Great Britain, does not hold good here, but we should do well to give barley sufficient time before stacking.

Oats, in the northern states, are a more important crop than barley, but it must be confessed they are generally of a rather inferior quality. This is perhaps owing to the practice of cultivating them on low, light, mucky soils, which, while they produce an abundance of straw, do not yield the heaviest grain. The earlier varieties, if not cut before they reach maturity, will always shell out considerably in harvesting, however much care may be used. Late oats may be allowed to ripen with less danger in this respect. When oats are grown for consumption on the farm by horses, we prefer to cut them rather green, bind them up in small sheaves, cure them thoroughly, and then cut them up, straw and all, as they are wanted for feed. To obtain the heaviest and best oats for market, however, it is necessary to let them get nearly ripe, so ripe, in fact, that a few of the lowest berries in the ear will shell out in harvesting. We know this is opposed to the teachings of most agricultural writers, but we state it with some confidence as the opinion of an experienced and successful farmer.

We need hardly say that much grain is considerably damaged every year by being imperfectly covered in

the stacks, and, although when threshing is done in a few weeks after harvest, it will not pay to thatch them thoroughly, yet it certainly does not pay to let the rain get into the stacks. In making the stacks the middle should be kept quite full as the top is approached, so that the grain of the whole roof shall shelve off from the centre. In this way, when carefully covered, little damage will be done by ordinary rains. We throw out these desultory and hasty hints rather for the purpose of inducing farmers to think on the subject, than to offer rules for general adoption.

Deep and Shallow Plowing.

MESSRS. EDITORS—Since sending you mine of the 4th inst., I have read Mr. BREWER's second communication in the Country Gentleman, in relation to deep and shallow plowing, in which he cites one instance where he has been greatly benefitted by the former, though still adhering to his first position, that in general, shallow is better and more profitable than deep plowing. From a careful perusal of both communications, I am unable to arrive at any other conclusion than the one advanced in my last, viz: Mr. Brewer has not given the modern system of deep plowing that fair, systematic and persevering trial which its importance demands, and which should be done in order to test with accuracy its ulterior effect upon the profits of farming. I admit that for *one* crop of corn, and probably for the crop that follows, 4 to 6 inches is better than 10, and I stated the reasons in my last why it is so; but patience and perseverance are necessary, and with the exercise of these sterling virtues, which is indispensable to success in farming as well as in other kinds of business, Mr. Brewer, or ar y one else, will find a ten-inch soil, well pulverized and eariched by manuring, vastly more profitable in the long run than a four-inch soil. The crust which forms under the surface soil by shallow plowing, which I found upon my farm, and which Mr. Brewer speaks of deriving so much benefit by breaking with the subsoil plow upon a part of his farm, should in my opinion be always broken whenever found to exist in any kind of soil whatever, wet or dry, sandy or clayey; and I have yet to learn that after getting a ten-inch soil, it requires more manure for a good or a great crop of corn than it does on a four-inch soil.

I am, however, not much in favor of subsoiling, particularly on alluvion, or any soils free from hardpan; the expense of team to subsoil to the depth of 16 to 20 inches, is more than would generally be repaid in the production over a ten or twelve inch soil, which can be readily obtained by one of the modern single plows of the deep-tiller class.

Mr. Brewer writes like a sensible man, and a practical and energetic farmer, which I have do doubt he is; but he must pardon me for dissenting widely from his opinion upon this subject. We have both been guided by practice, and have arrived at different conclusions; but has not the practice of the one in a particular direction, been longer tested, more closely and constantly pursued? and may not this account in some measure for this disparity of opinion? And again, there may be, and probably is, a wide dissimilarity in the soils and climate of our localities; the lands in his section of country may not have been so long cultivated, may not have yet lost their virgin fertility, and there may not be the necessity for deep cultivation there that there is here, and whenever it is tried there, the effects may not be so visible as they are here. I would treat Mr. Brewer's opinion with deference and respect, but to say that his views of plowing are best suited to the older cultivated portions of our country, is more than I can conscientiously suscribe to.

When lands are new and first brought under cultivation, if the soil possesses the natural elements of fertility, it matters not much what the process is, provided seed time and harvest are attended to, the product will be abundant; but after the lapse of a century it is not so · a renovating process must be pursued, or the lands become worthless; as the natural fertility fails upon the surface, which in time it most assuredly will, we must go into the stratum of earth below, which possesses equal powers of production when assimilated and mixed up with the surface soil, and by a constant and steady practice of this kind, with a rotation of crops and a return to the soil of the manure made from the crops taken out of it, we can ever keep our lands in a profitable and productive condition.

Messrs. Editors, have you or some of your readers ever noticed where the earth has been thrown out by the digging of a well for water to the depth of 25 feet or over? and if so, have you not noticed the luxuriant growth of weeds and grass that would spring out of this earth after a few years exposure to the sun and atmosphere? Now this dirt has lain dormant since the creation, in the bowels of the earth far below where the plow can ever reach, yet when brought to the surface and exposed to light, heat, and frosts, and other atmospheric influences which we know not of, becomes as productive as the surface soil was in its virgin nativity. I mention this as one fact which goes conclusively to prove the position I have taken. Then, again I would say, with most others who write for agricultural papers, Plow deep, manure generously, cultivate thoroughly, and in so doing you will find your reward. J. W. COLBURNE. *Springfield, Vt.*

STACKING CORN STALKS.—A correspondent of the *Boston Cultivator* has tried various methods of curing his corn-stalks, but without satisfactory success. Last fall after the stalks were sufficiently cured, he carted them into the barn, and instead of setting them up, as formerly, he packed them down and on every layer of stalks put a layer of fine salt, say a bushel to a ton. The cattle eat them up clean and he is satisfied with the result.

CORNS.—Soak the feet in warm water, pare off as much as possible the horny part of the corn, then lay upon it a moistened wafer, and again upon this a piece of buckskin, with a hole cut through it the size of the corn. Renew the moist wafer twice a day, and in a very few days the corn will work out. This cure is complete.

Peas as a Manure for Wheat.

The *Southern Planter* gives an interesting account of the effects of peas plowed under as a manure for wheat, on the farm of Mr. MATTHEWS, situated on the Chickahoming, five miles from Richmond, Va. Mr. M. purchased the land in 1849, and seeded a particular field in wheat, in the fall of that year. Its crop was not measured separately, but it did not exceed seven bushels per acre as a maximum. In the month of July, before the shocks of wheat were hauled out of the field, peas were sown on this field, at the rate of one bushel per acre, broadcast on the stubble, plowed in with a one horse plow followed by a harrow. The peas were plowed under from the 20th of September out, and wheat sown, upon the land. The produce was 12½ bushels of good wheat per acre.

In 1852, the land was planted in corn and made six barrels per acre, and was again sown in wheat. In 1853, the wheat yielded 16 bushels per acre, and was followed by peas and wheat as before. In 1854 the crop of wheat was 23 bushels per acre, and was again followed by the peas and wheat. In 1855, "the wheat is cut short by the drouth, but from what we saw it is safe to estimate that in a fair season it would have made 25 bushels per acre." No manure has been applied to the soil except what the peas furnished.

We see in these interesting facts, confirmation of our views in regard to the destruction of ammonia by the growth of wheat, and of its preservation by the growth of peas, clover, turnips, &c. We have earnestly and repeatedly advocated the extensive cultivation of these crops in alternation with wheat, corn, &c. We are not prepared to say that *all* the increase of wheat obtained by Mr. Matthews, is due to the ammonia obtained from the atmosphere and rain water by the peas; for probably an improved system of tillage, pulverization of the soil, &c., had something to do with it, but it is evident that the increase is mainly due to this cause. This explanation is the only one consistent with the generally received facts of practical agriculture and the indications of scientific experiments. But whatever the cause of the increase may be, the fact, that peas grown and plowed in for wheat give a considerable increase, cannot be doubted, and farmers would do well to act upon it.

There are those who think such a system will speedily exhaust the soil. We are compelled to differ from them. It may *impoverish* the soil more speedily of the mineral food of plants, but it does this because it gives proportionately greater crops. The production of a hundred bushels of wheat impoverishes the soil in the one case no more than in the other. If a soil contains an abundance of the mineral elements of plants, we see no folly in enabling the plants to take them up by an increased supply of ammonia. These mineral elements are the dead capital of the farm, and we are desirous of converting as much of it as possible, into active circulation; and should the time come when these mineral elements were deficient, sufficient for a bushel of wheat may be supplied for six cents, at most; whereas we cannot buy ammonia, sufficient for the production of a bushel of wheat, for less than eighty cents. Is it not wise, then, for the farmer to grow, while he can, clover and peas, which when consumed by animals on the farm, and the manure returned to the land, or when plowed directly under as in the case of Mr. Matthews, furnish the wheat and corn with the expensive ammonia they require in such large quantity.

Cultivation of Celery.

The principal difficulty in raising large and well bleached celery is to get the plants early, and sufficiently stocky. This is best accomplished by sowing them early in the spring in a hot bed, and when an inch high transplanting them into a cold frame, and afterwards transplanting them into a warm border where they can remain till the trenches are ready for them. This will seem more labor than most people are willing to bestow, but frequent transplanting is the only way to get strong, healthy plants that will receive little check when planted in the trenches during our hot June and July weather.

In making the trenches the soil should be thrown out at least two feet deep, and twelve inches wide at the bottom; the first six inches being placed on one side, so that it can be used for covering the manure. Good leaf compost, or "spit manure" as the London gardeners say, from old hot beds, or, what is still better, the liquid and solid droppings from a manure cellar well composted with thoroughly decomposed peat should be put at the bottom of the trench about six inches thick, and covered with about six inches of rich, light, surface soil. Let the plants be well watered 24 hours before transplanting, and take them up with a ball of earth round the roots, and they will receive little or no check. Good superphosphate of lime either in solution or mixed with the soil before transplanting has a very beneficial effect, in giving the celery an early start. We have also used with great advantage Peruvian guano, applied in a weak solution, say a teaspoonful to two gallons of water. Celery is a gross feeder, and revels in ammoniacal manures, and the well decomposed organic matter or humus of dung, leaves, peat, &c. The soil should be kept constantly stirred till the plants have got a good start, and it is not well to be in too much hurry to commence earthing up.

It is, indeed, a disputed point whether it is best to earth up at several times during the season as the plants grow, or to do it at once, when they have nearly done growing, late in the fall. We have always adopted the former practice, and have had good success; and, on this account, are inclined to recommend it. In earthing up, care should be taken that the soil does not get between the stalks, and it is not well to press it too tightly round the plants at first.

In England, celery is allowed to remain in the ground all winter; but from the greater severity of our winters, it is better, here at the North at least, to take it up after it has done growing, and stow it away in the cellar

Exhibition of Stock in Paris.

We have not yet received a full report of the exhibition of agricultural stock in Paris in connection with the Palais de l' Industrie, but glean a few particulars from an interesting account by the editor of the *North British Agriculturist* who attended it. The exhibition was held in the Champs de Mars, Paris. The showyard presented a gay appearance. The taste displayed in the arrangement—the combining of trees, flowers and fountains for effect—the number of well dressed individuals—with the commingling of colors of the bright tints of the ladies' summer dresses—the rows of trees partially shading the showyard from the bright sun-shine—the whole presen ed a picture which will not soon be effaced from the memory of those, especially of strangers, who witnessed the exhibition.

The number of lots exhibited was about 1200, comprising nearly 2000 animals. In the several classes for Durhams (Short Horns) there was some 45 competitors from Great Britain and Ireland, and 29 with "pure Durhams bred in France." The competitors from England and Scotland carried off "nearly all the premiums for Durhams, Herefords, and Devons; of sheep, all the Leicester, Cotswold, and a considerable proportion of the South Downs. Of pigs they also carried off several of the prizes. The same as to poultry."

In Herefords, Devons and Sussex, the quality of the stock was very superior. A large number of Ayrshire cows were shown, but they were rather indifferent specimens of the breed. The Emperor exhibited three Ayrshires as extra stock; one of these a heifer, was "a beautiful creature." Several of the imperial establishments had cattle as extra stock exhibited, most of which were crosses between the Devon or Ayrshire, with native breeds. Of Dutch cattle there were few animals of even ordinary merit exhibited. Better specimens are frequently to be seen in Smithfield market. The Fribourg breed which extends over several of the Swiss Cantons is characterized by a bulkiness of bone which appears surprising. Color brown or black with large patches of white, face and back generally white. Some of them bear a likeness to the old herd of cows in Scotland with white face. They are fully larger than any native breed in the United Kingdom, not very level on the top, but evidently good milkers. They have a mildness and gentleness in their expression which speaks in unmistakable language that they are upon very intimate terms with their owners. The Schwitz, another Swiss breed remarkable as milk producers, are of a dark dun brown, with the under parts of a lighter color approaching to fawn or yellow. The price asked for these cattle was fully equal to that demanded for Short Horns. The cows were shod, and had been driven to the exhibition 600 miles. They were active and not apparently injured by the journey. They are, structurally, well adapted for travelling.

There was an indifferent show of French sheep, the Merino excepted. "The indigenous breeds of sheep in France must in time give place to other breeds. The same with reference to the pigs. The native breeds are not only offensively ugly, (ill-looking) but are often positively dangerous. The French are becoming every day more impressed with the value of the improved English breed of pigs." Of Leicester and Cotswold sheep the show was good. In South Downs the exhibition was superb. All the rams were shown by Messrs. JONAS WEBB, ELLMAN and RIGDEN. Mr. W. sold about fifty, to be forwarded from England, at very high figures. The exhibition of goats was interesting from the curious breeds congregated. The beautiful goats from Cashmere, as well as some others, attracted many admirers. In poultry there was little competition.

The distribution of prizes took place in a pavillion erected for the occasion. The successful competitors with their servants were requested to be present, and upon their names being read they walked to the dais at which the minister and jury were seated; and received the tickets entitling them to the prize. The first name called was that of Lord FEVERSHAM, and he was cheered. The rest of the English, Dutch and Swiss prize takers were also received in the same kind manner. Mr. JONAS WEBB was called upon so often that the reception he received towards the close was quite enthusiastic. A special medal of large size is to be struck for this worthy representative of the English Farmer. One very young lady of a pretty blond complexion was also very loudly cheered. The most interesting part of the ceremony was, however, that when the servants received their prizes. The honest blunt English Shepherds approached the dais for medals. These are of silver, and beautifully carved, having upon one side the likeness of the Emperor, &c. During the distribution of the prizes, which occupied two hours, an excellent military band enlivened the proceeding by playing national airs. When the name of Prince Albert was announced as a successful competitor the band gave "God Save the Queen," the whole company standing.

The demand for English stock was, upon the whole, good, and very fair prices were given for good animals for breeding. Indeed, it may be questioned if there were ever as many animals sold at any of the National Societies in the United Kingdom, and at as good prices. The Short Horns were in most demand. Mr. T. BALL, Ireland, sold his three heifers at the average price of $600. Nearly all the Herefords and Devons were sold. The best Cotswold rams were sold to a French nobleman for $150 each, and the three first prize ewes for $100 each. The pigs were in great demand, scarcely one animal returning to England. The first prize boar and sow, of the small breed, sold for $225 each.

The whole of the expenses of transit of the stock, or expenses incurred otherwise, have been repaid by the French Government to those exhibitors who made application, and some rather extravagant charges have been so refunded. The whole outlay to the French government is estimated at $60,000; the greater portion of which was expended in premiums.

Inquiries and Answers.

BONES.—*W. H R.* See article on this subject, in Co. Gent., for June 7, p. 358.

TURNIP SEED.—*W. H. R.* J. M. THORBURN & Co., New-York, import their turnip seed, and you can procure all the valuable varieties from them.

VETCHES.—*T. E. Suliot, Franklin Mills, Ohio.* The general opinion appears to be that vetches will not flourish well in our dry hot summers. We apprehend however, that they have not had a thorough trial. If any of our readers have had experience with vetches either for soiling, for a green manure, or for seed, we should be pleased to hear from them.

OSAGE ORANGE.—Can you inform me if the Osage Orange Hedge is hardy enough to withstand the cold north-west winds of Eastern Massachusetts, near the sea shore. T. *Winthrop, Mass.*

We refer our correspondent to the articles on this plant, pp. 266, 330, 391, of our last vol.

Is currying milch cows, in winter, injurious or beneficial? C. STUART.

Currying milch cows in winter, and all other ways of promoting cleanliness and comfort, are decidedly beneficial.

IMPOVERISHED SOILS IN VIRGINIA.—Can you, or any of your correspondents furnish information with regard to the worn out lands in Virginia and Maryland? What are they worth? Are they easily brought too, or made productive? What is the original quality of the soil and what is it adapted for producing? Is the country healthy, with good water, and roads, schools and churches? Any information transmitted through the colums of the COUNTRY GENTLEMAN will be gratefully received by hundreds of the many readers of that valuable paper, throughout the country, as well as by your correspondent. P. *Mooers, N. Y.*

Will some of our readers in the states referred to, answer the above. There is much desire for *the truth* in regard to these "worn out soils." We know one or two who have gone there from this state, and they have not found farming as profitable so far as they expected, though they like the climate better.

CLOVER HULLERS.—I wish to inquire through your valuable paper the *Country Gentleman*, for the best Clover Huller to run with water power where we have from 50 to 200 bushels of seed to clean in a year. I have seen Crawford's Patent recommended to be as good as any and as being extensively used in Ohio. Is Crawford's patent better than Wheeler's or others that are advertised in the *Country Gentleman*? Do any or all of them hull and clear at the same time? Where and by whom are they manufactured or kept for sale? If you or some of your readers will give the desired information through the Country Gentleman you will greatly oblige A SUBSCRIBER at Orfordville N. H.

Crawford's Clover Huller is an excellent machine and extensively used in Ohio, but we cannot say that it is "*better*" than WHEELER, MELICK & Co's, manufactured in this city. Crawford's is made by the Messrs. RUSSEL, Massillon, Ohio. "Mansfield's Clover Huller," made at Ashland, Ohio, is also a popular machine. An excellent clover huller of larger capacity than any of the above, is made by A. LATOURETTE, Jr., Waterloo, N. Y. All the above machines, except Wheeler's, hull and clean at the same time.

GUANO FOR RYE.—I have a field I wish to sow with rye, which is inconvenient to haul compost to. Which fertilizer would be best, guano or plaster, and how should they be applied? Would not plaster be good as a top dressing in the spring. Your opinion on the above will much oblige J. H. B.

Good Peruvian guano is the best fertilizer for rye we are acquainted with. Sow 200 or 300 lbs. per acre on the furrows, and harrow it in at the time or a few days before the seed is sown. Will our readers give their experience with plaster as a top dressing in the spring on rye. We should not anticipate, as a genera thing, much benefit from it.

ASHES AND SALT FOR CORN.—A correspondent writes that a friend of his applied a mixture of unleached ashes and salt to corn, *and it killed the corn.* He applied the same mixture (with this difference the ashes were *leached*) to potatoes with good effect.

C. H. G.—Westinghouse's two-horse power endless chain thrashing machines, and others advertised in our columns to which you refer, are excellent machines. We cannot say which is the "*best;*" they are all good.

ICE HOUSES.—Can you, or any of your correspondents, inform me through your paper, the Cultivator, the best mode of building an ice house, and how to keep, and pack it away. I have had several built on my farm in Greensborough, Md, but to no advantage. The ice would keep only a very short time, hardly worth the trouble and time in saving it. J. F. D. L.

R. *Richland, N. Y.*—The lime from a tan vat or from a paper mill would be nearly as valuable as ordinary slacked lime.

THE ILLUSTRATED ANNUAL REGISTER OF RURAL AFFAIRS and Cultivator Almanac for 1855, embellished with more than *One Hundred Engravings*—1 vol. 12 mo. 144 pp.—price 25 cents in paper covers—bound, 50 cents—sent prepaid by mail.

A capital book. The best thing upon rural matters that we have seen for a long time is "The Illustrated Annual Register of Rural Affairs, and Cultivator Almanac for 1855," by Luther Tucker, editor of the Country Gentleman (weekly) and Cultivator (monthly,) at Albany, N. Y. It contains in 128 pages, besides the calendar matters, 200 articles illustrated by 133 engravings, upon almost every point interesting to economical farmers or gardeners, and abounding with hints that will be found valuable by every man of taste and progress, however extensive or limited his means. Horticulture, the care of animals, field and garden cultivation, rural architecture both cheap and expensive, landscape gardening, protection from insects, household economy, new implements, and general agricultural and domestic information crowd its pages. The price is only 25 cents. We advise every one of our readers at all interested in any of these topics to forthwith send for it, as we know they will thank us for the suggestion.—*Lowell Courier.*

Notes for the Month.

THE CROPS.—The damage done by the Hessian fly to the wheat crop it is now generally admitted, has been overstated, and we trust the fears in reference to the midge will be found in a few days to have been premature. There can be no doubt that both the Hessian fly and the midge have done and will yet do considerable damage, yet, on the whole, the prospects of an abundant wheat harvest were never brighter. A letter just received from Rochester speaks of the wheat crop in Western New York as generally excellent, while barley, oats, &c. are "too good." The corn is late but there is yet abundance of time for a good crop. In Ohio, the midge has made its destructive appearance in some districts, yet a splendid harvest is expected. In the west generally the crops are most excellent. In Kentucky, the *Farmer and Mechanic* says "never within our recollection have we seen the crops look better in this country than at the present time. * * Harvest is now fully upon us * * and there is a fair prospect of lower prices. * * Nature seems determined to compensate us, as far as possible, for the bad yield of last year, by filling our granaries to overflowing." In Virginia, Delaware, &c. as we learn from public and private sources, the crops were never better. In England, they had a very dry spring, and latterly much rain and cold weather, and many fears are entertained of a bad harvest. The *Mark Lane Express*, however, thinks there is little ground for alarm, though the harvest will undeniably be a fortnight later than usual.

The American Agriculturist gives an account of a fraudulent article manufactured in this country and sold to farmers as Chilian Guano. It is prepared so as to look and smell like Guano, but is comparatively worthless. Farmers should beware.

Our very wide-awake contemporary, the *New-York Tribune*, presented its readers with the above item of information last Monday. It is rather behind the times, both as regards its information and its authority. It was the *Country Gentleman*, and not the American Agriculturist, that gave the account of the fraud perpetrated by the maufacture of a spurious "Chilian Guano."

SEASON AND CROPS IN INDIANA.—A letter from J. C. TEAS, of 28th ult. from central Indiana, says, "It has rained almost every day since the 30th of last month (May) till the 25th of this—much corn has not been worked at all or is now being worked for the first time. It should be waist high at this season of the year, but is little over a foot—still we look for a good crop. Wheat promises a fair crop, is beginning to turn, and shall soon cut it. Fruit crop moderate, owing to the late frosts. In eastern Illinois, they have only a third of a crop of fruit. Nursery trees grow well. For about a month, not a furrow could be plowed, and not any hoeing done, on account of the excess of rain. We have not had our usual portion of rain for a year or two before."

DEATH OF JAMES WILSON.—Our citizens will regret to hear of the death of this estimable man. He has, for nearly a quarter of a century, lived among us, and his Flowers, respected for his many virtues. He leaves behind him a fragrant character, and his memory will ever be associated with the beautiful creations with which, in life, it was ever his delight to be surrounded.

We copy the above from the *Evening Journal* of Saturday last. Mr. WILSON died suddenly Friday evening, from congestion of the lungs, accompanied by a severe attack of pleurisy. He has long been a well known friend of Horticulture; he was a partner with Judge BUEL in his celebrated nurseries many years ago, and has for the last fifteen or twenty, been one of our most prominent Florists, as well as a member of the nursery firm of Wilson, Thorburn and Teller. His sterling integrity and unfailing cheerfulness have endeared him to many earnest friends. He brought with him from his early Scottish home, the manly virtues for which that nation is distinguished, and his sudden death is a shock which many a heart will feel, beyond the circle of his own bereaved family.

ALBANY CO. AG SOCIETY.—The next Fair of this Society is to be held on the Washington Parade ground in this city, on the 25th, 26th and 27th days of Sept. A meeting of the Board of Managers was held at Clarksville on the 14th, when the Judges were appointed, and other necessary arrangements made for the exhibition. It is to be hoped the farmers of this county will not forget the honor they acquired by the success of their last year's show, and that they will be prepared to make a finer display of their products this year than ever.

DURHAMS.—We learn that S. T. TABER, Esq., of Dover Plains, Duchess Co., has recently bought of Mr. THORNE a second bull calf from one of Mr. T.'s imported cows, by Messrs. MORRIS & BECAR'S "Duke of Gloster," so that he has now in his possession the only males in the country got by this celebrated bull, their dams having been served before the bull was brought to this country. We hear also that Mr. WILKIN of Orange Co., has sold, at a greatly advanced price, the famous bull "Balco," which he bought last spring of Messrs. MORRIS and BECAR, to go to Indiana.

E. MARKS, Esq., of Camillus, Onondaga Co., purchased a few days since, from the herd of Dr. HERMAN WENDELL of this county, two very fine heifers and one cow. The heifers are Alice Maud 2d, by Meteor (11811.) out of imported Alice Maud by Grand Duke (10284.)—G. D. by the Duke of Northumberland (1940,) &c., &c., and Olivia by Dr. Wendell's imported Lord Ducie, out of Roan Lady by Monterey. The cow is Ringlet, by Mr. Vail's imported Duke of Wellington (3654,) out of Snowdrop by Ajax (2944.)

USE OF BONES.—Some twenty years since, at the suggestion of the late Judge BUEL, a gentleman of this city put up a mill for grinding bones for manure. The farmers, however, failed to avail themselves of its advantages, and a large portion of the bones collected in this and neighboring towns, were shipped to England for the use of British farmers. Within the last few years, however, a change has occurred. The demand for bone-dust has been steadily increasing; and with all his efforts Mr. COULSON, the proprietor of the bone mill in this city, has been unable to supply the orders he has received, although he succeeded the past year in grinding over eighty thousand bushels. Most of this we learn, is shipped to Philadelphia, Baltimore, and other southern cities.

WILLOW PEELER.—Geo. J. Colby of Bolton, Vt., who has engaged in the culture of the Osier Willow, has recently invented and put in operation a machine for peeling the willow, which is said to perform the work with great rapidity.

A Nut for the Special Manure Theory Men to Crack.—Prof. Way truly says:—"The crops which are most benefitted by the application of gypsum, contain far less of either lime or sulphuric acid, than those upon which this manure produces no kind of effect." We may also add that the same may be said in regard to phosphate of lime, potash, &c. The crops which are most benefitted by their application contain the least of these in their ashes. When will those writers, who recommend manures corresponding to the ashes of the plant to be grown, examine this subject?

The American Farmer.—This old and earnest advocate of agricultural improvement commences a new volume with July number. It has always been one of our favorite exchanges, and we are glad to see it in new and larger type. Those who want a good sound, readable and reliable southern agricultural journal, will obtain it by sending $1 to S. Sands and Worthington, Baltimore, Md., and now is the time to subscribe.

Improved Cattle for Illinois.—We learn from the Chicago Democrat, that there is an "Illinois Breeding Association," located at Summit, Cook county, and that they have just received from Col. Morris, Mount Fordham, six imported thorough-bred Durham cows, all in calf by the imported bull Duke of Gloster. The association previously possessed four calves by Balco, two bulls and two heifers. "The bull calves from these six cows," says the Democrat, "they expect to cross upon the Balco heifers. And the bull calves from Balco they expect to cross upon the heifers from the Duke of Gloster. This, then, will be the starting point of the Summit herd of cattle. And, when people purchase, they will know exactly what they get. The pedigree being fixed, purchasers can suit themselves as to size, color and form, and the present imposition in trading off impure breeds of cattle for thorough-bred can be broken up, as no bull will be sold there whose pedigree on both sides will not be printed in the Herd Book."

Strawberries—Wilson's "Albany.—A dish of the above named fruit was sent us from the nursery of the late lamented raiser, Mr. James Wilson of this city. They certainly are a splendid fruit to look at—conical shape, dark evenly colored, with the seeds very prominently exhibited. Being an hermaphrodite in its sexual character, it is a free and heavy bearer, and will undoubtedly soon work itself into public favor. We hear it is a great favorite with market gardeners both here and in Philadelphia, where it has been partially disseminated.

Guano on Corn.—We have had rather a cold backward spring here. The hay crop will be very light this year. I have sowed my meadows with guano and plaster mixed half and half, which I see has helped them a good deal. Guano if used properly, I think well pays the farmer. Last spring I came on the place where I now am, and planted a 4½ acre lot with corn the first day of June; hoed it but once; put about a table spoonful of guano in the hill, and spread on some coarse manure I found in the barn-yard. The manure and lot were so poor my neighbors said I would get my labor for my pains; but when harvest came, it was said I had the best corn in Lebanon. The guano made nearly one-sixth difference, not by guess but by weight. Jas. Allan.

☞ John M. Stevenson, Esq., of Cambridge, Washington Co., has within a few days past, purchased from the herd of Dr. Hermon Wendell of this county, two very fine Durham bulls. One is "Charleton," a yearling, got by Eclipse 2nd—(a gr. son of Meteor (11811)—) out of Daisy 7th, by Duke son of the Duke of Wellington (3654,)—the other is "Clarence," eight mo. old, by Dr. W.'s imported Lord Ducie, out of Daisy 6th, by Duke of Wellington (3654) &c., &c.

South Downs.—We have received from Mr. Samuel Thorne of Thorndale, Duchess Co., models of a pair of his beautiful South Downs—that of the Ram being the celebrated No 112, purchased by Mr Thorne at Jonas Webb's letting in 1853, for $650, and the Ewe being one sent out to Mr. T. as a perfect specimen of the breed. The admirers of fine animals are invited to call and examine these beautiful models. It will be seen, by an advertisement in this paper, that Mr. T. has some of the progeny of 112, as well as some imported ewes, for sale.

Improved Harrows.—I was interested with Mr. Hanford's description of his harrow in the Co. Gent. of June 14, and have no doubt it works well. But with my limited experience in the use of this most important farm implement, I have come to the conclusion that on land comfortably free from stone and tolerably level, there is no tool that will do the work equal to a stiff unjointed square harrow. There seems to be a sort of steadiness about them, that is just what is needed to level down slight protuberances in the soil, and more completely to pulverize the earth than any other pattern I have met with. I have one which I have been using this spring, of 28 teeth, of this description, which with 3 horses on and a good lively hand to drive, seems to do the work something as it should be. And really I cannot see how so many of our intelligent farmers can continue to use the *old fogy* A harrow, with great heavy dull teeth—say 13 or 15, and ¼ or ½ inches square, when a *good* tool will do the work so much more thoroughly. Wm. J. Pettee. *Lakeville, Conn.*

☞ A story is going the rounds, that several of Col. Morris' fine imported cattle had been stolen, and slaughtered in New-York by the butchers. Such is not the fact however. The cattle stolen, belonged to another Mr. Morris, and were intended for the Shambles.

SETH A. BUSHNELL,

BREEDER of Durham Cattle, Maltese Jacks and Jennetts, and South Down Sheep,
August 1—w1tm1t Hartford, Trumbull Co., Ohio.

FAIRBANKS' SCALES.

Warehouse No. 189 Broadway, N. Y.

THESE celebrated scales are still manufactured by the original inventors. By an enlargement of their works, and an introduction of improved machinery, these scales are now furnished at greatly reduced prices. We have recently added to our stock a full assortment of *fine Gold and Druggists' Scales, Spring Balances, Patent Beams, Weights &c.* and now offer at wholesale and retail the most complete assortment of weighing apparatus to be found in the United States. We have a new and convenient article which we denominate the "FAMILY SCALE," it being particularly adapted to the wants of farmers and all housekeepers.

Hay and coal scales set in any part of the country by experienced workmen. Orders and letters of inquiry by mail will receive prompt attention. FAIRBANKS & Co.
July 12—w&m3ms. 189 Broadway, New York.

Stock Farm for Sale.

FROM injuries sustained, the subscriber is compelled to offer his Farm for sale, consisting of 285 acres of Prairie and Timber land—one hundred acres under cultivation; 50 acres Burr Oak Timber; balance red top, timothy and prairie grass lawn; situated in Fox River valley, Walworth County, Wisconsin. White River, a fine, never failing stream, flows through it, and several fine springs and a very fine well of water are upon the property. There is a good Frame House, with cellar, surrounded by a Grove of large timber; a Tenant House; a good Barn, with cellar and stabling for five horses and twelve cows; Smoke House, and all the requisites of one of the best and healthiest farms in the Union. Furniture, Stock, Farm and Utensils will be sold low, and offers a fine opening to any who wish to live west, in a healthy region, near Railroads, and where there is always a good market for grain and stock. Fences mostly new. Terms made known by addressing H. IRVIN,
July 26—m3t* Burlington, Racine Co., Wis.

VERY IMPORTANT

To Housekeepers, Farmers and Fruit Growers.

ABOVE is a representation of a Canister, with a patent attachment, designed for preserving fruits and vegetables of all kinds in a perfectly fresh state, with their natural shape, color and flavor. It is termed the "SELF-SEALING CAN," and so called because soldering is dispensed with in closing up the aperture of the can, and because, by the simple turning of a cap, the outward atmosphere is wholly excluded

With these cans, and directions given with them, such fruits as Apples, Pears, Peaches, Strawberries, Raspberries, Blackberries, &c; and such vegetables as Tomatoes, Green Peas, Green Corn, Beans, and, indeed, every species of either, may be preserved for years in their fresh state without the addition of salt, sugar or acid, or any other preservative property whatever.

Many of these fruits decay and go to waste upon the trees, bushes and market places. Now they may be saved and used, out of their season, for table or pastry purposes.

With this Canister they can be preserved economically, as sugar and spirits may be dispensed with.

Health is greatly promoted by the free use of fresh fruits and vegetables, while, on the contrary, digestion is greatly impeded, and the digestive organs impaired by the use of preserved fruits so completely saturated with sugar, as are the ordinary sweetmeats preserved by families.

These cans may be used year after year. The directions for preserving fruit and vegetables accompany the cans. The mode is so simple that an ordinary house servant, or child ten years of age, need make no error.

A little wrench should be purchased for screwing down the cover tightly, thereby making a perfect job. The Funnels also are a great convenience to those who would easily and nicely fill the cans. They are made for, and are perfectly adapted to the purpose.

N. B.—The "Genuine Self-Sealing Cans" have cast in letters on the top of the cap, "Spratt's Patent," "Wells and Provost, Proprietors, New-York." This much is mentioned to prevent imposition upon the public by any spurious or worthless article in imitation.

All the cans are guaranteed to answer fully and perfectly the purpose for which they are recommended.

PRICES.

Quart Cans, per dozen,	$2.50
Half Gallon Cans, per dozen,	3.75
Wrenches, each,	10 cts.
Funnels,	10 cts.

For sale by WELLS & PROVOST
Sole Proprietors.

Warehouse for the sale of the Cans, &c., 321 Pearl street, near Franklin Square, New-York.

A liberal discount to Agents. Aug 1—m4t.

THOMAS GOULD,

BREEDER of Durham and Devon Cattle, Leicester Sheep, Suffolk Swine, Madagascar or Lop-eared Rabbits, English Ferrets, Guinea Pigs, Choice and Fancy Poultry.

Jan. 18—w&mtf Aurora, Cayuga Co., N. Y.

PERUVIAN GUANO.

PERUVIAN GUANO, No. 1, with Government weight and brand upon each bag. Price $53 per ton of 2000 lbs.

PERUVIAN GUANO, No. 1, taken from the lower part of the cargo, a little damp, with above brand upon each bag. Price $43 per ton of 2000 lbs.

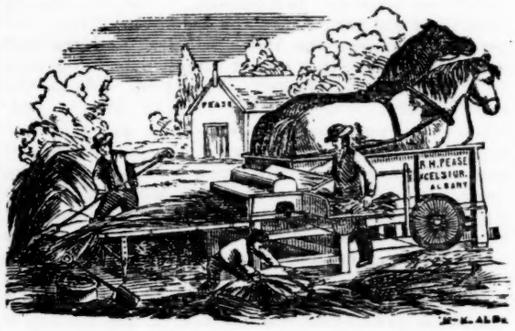
As the latter article is sold by some retail dealers for the best quality, be particular to observe that the *Damp* Guano has the figure **2** under the weight mark. For sale by

ANTOINE LONGETT,
34 Cliff street, corner of Fulton,
July 26—w9tm3t New-York.

Virginia Land for Sale.

THE subscriber having yet a few Farms for sale from his large and valuable tract of land situated in the county of Fairfax, Virginia, on and near the Turnpike leading from Washington and Georgetown to Leesburgh, 16 miles from the city of Washington, two miles from the Canal, and within 3 miles of the Alexandria, Loudon and Hampshire Rail Road. The soil is of the first quality, of a deep red color, seldom affected by drouths to which most lands are subject. Adapted to grain, plaster, clover, and all kinds of grass. The land will be sold in lots of 100 or 200 acres, or as the purchaser may desire. Every Farm will be well supplied with wood, which consists of oak, chestnut and second growth of pines Persons wishing to purchase would do well to call and examine before purchasing elsewhere. For further particulars, inquire of the subscriber on the premises.

S. S. MILLER,
Aug. 1—m5t Spring-Vale, Fairfax Co., Va



Excelsior Agricultural Works.

Warehouse and Seed Store,

No. 369 and 371 Broadway, Albany, N. Y.

THE subscriber is prepared to furnish to order a full assortment of Farm Implements and Machines, adapted to all sections of the country both north and south, among which may be found

The Excelsior Changeable R. R Horse Power.
" " Threshing Machines with Separators.
" " Cider Mill, Krauser's Patent.

Mowing and Reaping Machines, Grist Mills, Corn Shellers and Clover Hullers; Circular and Cross-cut saw mills adapted to the Horse Power, for cutting fire wood, fence stuff &c.

The list of Field and Garden Seeds is complete—embracing most of the Premium Grains on exhibition at the recent winter Show of the New York State Agricultural Soc. Among them is the Magnum-bonum Wheat, which is highly spoken of and apparently of great merit. Also a general assortment of Fertilizers. RICH'D. H. PEASE.

July 19—w&mtf.

NO. 1 PERUVIAN GUANO

CAN now be had at the

North River Agricultural Warehouse

For the benefit of farmers wishing to purchase this valuable manure, we would say that we do not keep the prepared, or No. 2 Guano. There will none but No. 1 Peruvian be found at our Warehouse.

GRIFFING & BRO.,
May 24—w8tm3t 60 Cortland-st., New-York.

Suffolk Pigs,

OF pure blood, for sale by B. V. FRENCH,
Feb 1—m1y Braintree, Mass.

Hay Presses, Hay Presses.

DEDERICK'S PORTABLE PARALLEL LEVER HORIZONTAL AND VERTICAL HAY PRESSES.

THESE Presses are so constructed that they can be taken apart at the manufactory, and (by the printed directions accompanying each press) put together again in a couple of hours by any two farmers, without the aid of a mechanic. They are so conveniently portable that they can be moved from one field or farm to another, as a sleigh is moved, by a pair of horses or oxen, and for convenience and power of operation they are altogether unequalled. They are now being shipped to all parts of the country, and are in every instance giving the most decided satisfaction. With two men and a boy to attend the horse, one of these machines will bale from 6 to 8 tons of hay per day, according to the No. or size of the press. Prices, from $130 to $175. For circular, with full description, apply personally or by mail to the subscribers.

DEERING & DICKSON,
Premium Agricultural Works,
May 10—w&meowtf Albany, N. Y.

DE BURG'S NO. 1
Ammoniated Super-Phosphate of Lime.

THE above valuable compound is warranted pure and genuine. The manufacturing department is under the personal direction of the subscriber, and will have studious attention as to his preparation at all times being uniform in its component parts. Many experiments during the past year, with the above brand, in equal quantity with Peruvian Guano and other concentrated Fertilizers, scrupulously testing its value as compared with the latter, by various State Farms, public Agricultural Committees, &c., have been made, showing a preference for it as a manure, both as to early inducement and prolificness of growth. Pamphlets will be sent on application to the subscriber, containing full directions for use, &c.

C. B. DE BURG,
Sole Proprietor and Manufacturer,
June 14—w&mtf. Williamsburg, L. I.

TA-FEU,

A NEW FERTILIZER, manufactured from night-soil, which, after being screened, dried and disinfected, is raised to a certain standard by the addition of salts of ammonia. It is warranted to be composed of nothing but night-soil and the aforesaid salts of ammonia, as the chemicals used for disinfection add neither bulk nor weight to the composition. It is the intention of the LODI MANUFACTURING CO., who alone possess the right to this discovery, to make an article which can always be relied upon as pure and of a certain strength. It will be sold wholesale and retail, at $35 per ton of 2000 lbs., without charge for barrels or cartage, instead of which no tare will be allowed. A circular, containing testimonials of those who used an article something like, but much inferior in strength, made by us last season, will be forwarded by mail on application to the subscribers or their agents. Address

THE LODI MANUFACTURING COMPANY
No. 60 Courtland street,
May 31—w&m4m New York.

Maclura or Osage Orange Hedges.

H. W. PITKIN,

Manchester, Conn., Dealer in Seeds and Plants.

IN consequence of the increasing demand for this remarkable Hedge plant, my exclusive attention is now given to the business. Seed is yearly gathered by my own agents, and may be relied upon as fresh and genuine. As many persons prefer the plants ready for setting in hedges, I have established nurseries in different sections of the country, where they are raised on an extensive scale, and in the most economical manner, and am ready to contract them in any quantity. A descriptive pamphlet on the Culture of Osage Orange Hedges, given to purchasers.

G. G. SHEPPARD, New-York—P. B. MINGLE, Philadelphia—BYRAM, PITKIN & Co., Louisville, Ky., wholesale Agents.
Apply as above. April 5—w2m2m

BLACK HAWK.

THE original VERMONT BLACK HAWK will serve a limited number of mares the coming season at $100 each.

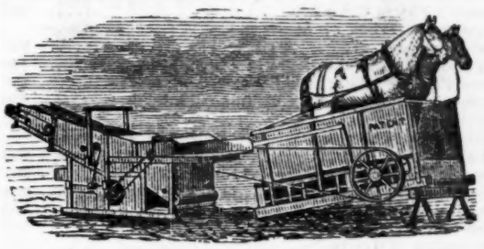
Gentlemen wishing to secure the services of this horse, must send in their letters at once.

Good pasturing at 50 cents per week. All accidents and escapes at the risk of the owner. DAVID HILL.
March 1, 1855—m5t Bridport, Addison Co., Vt.

Farm Lands for Sale,

IN LOTS TO SUIT PURCHASERS.

OVER **2,000,000 OF ACRES** of Selected Prairie Farm Lands, belonging to the Illinois Central Railroad Company. The price will vary from $5 to 25, according to quality, location, &c. The purchase money may be payable in five equal installments, the first to come due in two years from date of contract, the others annually thereafter—giving six years to pay for the land, with a charge of only *Two per cent per annum interest.* The first two years' interest payable in advance. The Company's construction bonds received as cash. Apply to CHAS. M. DUPUY, Jr.,
Land Agent Ill. Cen. R. R. Co.
March 15—m6t* No. 84 Lake St., Chicago, Ill.



G. WESTINGHOUSE & CO.

CONTINUE the manufacture of Threshing Machines Clover Cleaners, Wood Saws, &c., at Central Bridge Schoharie Co., N. Y.

We have improved our Thresher and Cleaner, (and for which we have obtained a Patent last year,) which works superior to anything of the kind in use, and has given entire satisfaction where used.

Our Horse-Power, Thresher and Separator, has the name of being the best machine in use, where known. Those wanting machines will be more likely to get them when wanted by ordering them early, as we shall not be able to make more than 100 of them this season. Last year we did not supply the demand by a large number, being unable to get them out in time.

Further information given on application by mail otherwise.

G. WESTINGHOUSE & CO.
Central Bridge, N. Y.
May 3—w22.24.26.28.30 32—m3t

ENGLISH CATTLE,

Imported on commission by Messrs. THOS BETTS BROS., Bishop's Stratford, Herts, England—81 Maiden Lane, New-York City.

BEING much the cheapest and the only way of obtaining Stock direct from the Breeder, which will give gentlemen an opportunity of obtaining the best stock, without having to pay an exorbitant price for them in America. The firm having had forty years' experience, they feel confident of giving satisfaction both as regards price and selecting the stock from the best herds in England.

Thorough-bred Horses,	Hampshire Sheep,
Short-Horned Cattle,	Cotswold, Leicester do
Devons, Herefords, Ayrshires,	Suffolk Pigs,
Alderney Cows from Islands	Essex, Berkshire do
of Alderney and Guernsey,	Merino Sheep from Spain,
Pure bred Southdown Sheep,	Mules, do do

Messrs. Betts Bros. have appointed one of the most experienced men in England entirely for purchasing Thorough Bred Horses. They have also an agent in Spain for purchasing mules, Merino Sheep, etc. Messrs. Betts Bros. have purchased a valuable patent invention which will prevent accidents occurring to cattle across the Atlantic. They can now be safely imported any time during the year. The cattle will be insured from Liverpool to New-York when desired, by charging a small per centage.

A steamer will leave Liverpool with cattle about the first of every month. The stock will be delivered at New York about six weeks from the time the order is given in America.

Circulars containing all particulars, expenses to America, and the prices of Cattle in England, may be had by applying by post to Messrs. THOS. BETTS,
or, J. M. MILLER, Agent, 81 Maiden-lane.
Jan. 4—1am—m1y. New York City.

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For sale at the office of the Country Gentleman.

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DOMESTIC ANIMALS
AT PRIVATE SALE.

L. G. MORRIS' ILLUSTRATED CATALOGUE, with prices attached, of Short Horned and Devon Bulls and Bull Calves, a few Horses, South Down Rams, Berkshire, Suffolk and Essex Swine, will be forwarded by mail (if desired.) by addressing L. G. MORRIS, Fordham, Westchester Co., N. Y., or N. J. BECAR, 187 Broadway, New York. It also contains portrait, pedigree, and performances on the turf of the celebrated horse "Monarch," standing this season at the Herdsdale Farm. May 3, 1855—w&mtf

THORO'-BRED SHORT HORNS.

THE herd of the subscriber being now larger than it is desirable to retain, on account of the size of his farm, he wishes to dispose of five females, varying in age from three months, to nine years, all highly tinctured with Bates blood, and in other respects with the most desirable crosses for milk giving, as well as butter and beef making. Also five very fine young Bulls, two of which were got by the celebrated prize Bates Bull Meteor, (11811,) two by his own valuable imported bull Lord Ducie, and one by Eclipse 2d, gr. son of Meteor. They vary in age from six months to one year, and are out of some of the best cows of his herd, who are equal to any in this country. DR. HERMAN WENDELL.
Albany, June 14—w&mtf

Devon Cows,

HEIFERS, and Bull Calves—pure blood—for sale by Feb. 1—mly. B. V. FRENCH, Braintree, Mass.

RURAL PUBLICATIONS.

THE attention of all persons interested in rural pursuits is invited to the following publications:

THE COUNTRY GENTLEMAN—a Weekly Journal for *the Farm, the Garden and the Fireside*—forming yearly two large and beautiful quarto volumes of 416 pages each. Price, $2 00 a year. This is, beyond question, the best agricultural journal published in this country. Specimens sent to all applicants.

THE CULTIVATOR—a Monthly Journal for the Farmer and the Horticulturist, beautifully illustrated, and forming an annual volume of nearly 400 pages, at 50 cents a year.

THE ILLUSTRATED ANNUAL REGISTER of RURAL AFFAIRS for 1855, embellished with more than *One Hundred Engravings*,—1 vol. 12 mo. 144 pp.—price, 25 cents in paper covers—bound, 50 cents—*sent prepaid by mail.*

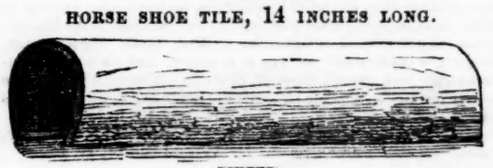
RELATIONS OF CHEMISTRY TO AGRICULTURE, and the Agricultural Experiments of Mr. J. B. Lawes, a new work by Prof LIEBIG, just published, price 25 cents—sent prepaid by mail.

☞ Specimens and Prospectuses sent to those disposed to act as Agents. Address the publisher,
LUTHER TUCKER, *Albany, N. Y.*

Appleton & Alderson's Drain Tile Works,

Corner of Lydius and Snipe streets, Albany, near Mr. Wilson's Nursery.

HORSE SHOE TILE, 14 INCHES LONG.



PIECES.

4½ inches calibre,.....$18 per 1000.
3½ inches calibre,..... 15 per 1000.
2½ inches calibre,..... 12 per 1000.

SOLE TILE, 14 INCHES LONG.

PIECES.

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May 24—m12t*